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AUXILIARY SQUADS A AND B, CHIEF AND DEPUTY CHIEF IN THEIR AUTOMOBILES

## PUBLIC WORKS AND SERVICE OF SPRINGFIELD, MASS.

**Sewer and Street Work Done by Day Labor—Wood, Brick and Asphalt Paving—Street Cleaning—  
Auxiliary Fire Squads—Water Meters**

SPRINGFIELD, Mass., is fortunate in the number of its wealthy citizens who have shown their public spirit in donations to the municipality. Mr. Barney, the skate manufacturer, permits the use of his private estates as a public park. Mr. Wesson, the revolver manufacturer, built hospitals and libraries during his life time and it is probable that his residence will be turned over to the city for housing the many art treasures which have been given to it. From Mr. Haines' bequest originated the agitation for the improvement of the river front, which has been continued by Nathan D. Bill, who has already given considerable sums for this purpose and promises more. This river front improvement, which has been authorized

by the Legislature, is expected to cost in the neighborhood of \$15,000,000, but a part of this expense will be borne by private subscription, \$200,000 already being available for preliminary work.

In addition to this expenditure, the city is now considering a new source of water supply, which will cost approximately \$2,000,000, and is changing and rearranging its distribution system within the city at a cost of \$500,000. It has acquired the land for and is expecting to build one of the finest city halls in the country to replace the one burned down two years ago.

During 1907 \$66,500 was spent on the extension of the sewer system. All sewer and street work is done by the

city directly by day labor. During this year for the first time trunk sewers have been built of concrete, brick having been used previously. Arthur A. Adams, Superintendent of Streets and Sewers, states that the concrete construction saved the city about \$5,200 on the 1,300 cubic yards built last year; the average cost, including material, excavation, forms and labor, being approximately \$7.00 per cubic yard. Wooden forms were used. The concrete was mixed by hand in the proportion 1:2 $\frac{1}{4}$ :4 $\frac{1}{4}$ . During the year 3,395 linear feet of egg shaped sewer, from 2 feet x 3 feet to 2 feet 8 inches x 4 feet, was constructed; 990 feet of 2 feet 8 inch circular sewers and 665 of elliptical sewer with concrete inverts and brick arches. About four miles of 10 to 24-inch vitrified pipe sewer was constructed.

There are about sixty miles of macadam streets in the city, three of which were constructed last year at a cost of from 65 to 75 cents per square yard. About one-half mile of macadam was covered with tarvia for a width of 25 feet, under the direction of the company's expert. This has not worn well and entirely disappeared within a year of the time it was applied. Mr. Adams states that this may be due to the fact that there is a heavy traffic on the street and that the grade is about 4 $\frac{1}{2}$  per cent.

There is about 30,000 square yards of wood block paving, the blocks for which were furnished by the United States Wood Preserving Company, guaranteed for ten years, and were put down by the city. About 6,400 square yards were laid last year at a cost of from \$3.40 to \$3.50 per square yard. The blocks are laid on a foundation of 4 $\frac{1}{2}$  inches of concrete and are bedded in  $\frac{1}{2}$  inch of a mixture of one cement and two sand. After laying, the joints are filled with the same mixture.

There is about 84,000 square yards of brick paving, laid by the city; about 40,000 square yards of bitulithic put down in 1904; also 8,000 square yards of Sicilian rock asphalt laid by the Boston Asphalt Company.

All of the above permanent paving is giving good satisfaction. In reply to question whether complaint had been received of the slipperiness of wood block paving, Mr. Adams stated that at first there was some, but that now both drivers and horses were accustomed to the paving and preferred it to any other.

Sidewalks, of brick, concrete and tar concrete, and curbs are laid by the property owners at their expense, but under the direction of the city.

The streets are cleaned during the day by uniformed patrolmen and swept at night with machines, one Studebaker and one Abbott-Downing machine being used. In addition, the wood block and asphalt paving are flushed three times a week. Patrolmen deposit their sweepings in near-by stables and machine sweepings are collected in carts and carried to a dumping ground.

Sprinkling the streets costs about \$350.00 a mile. Part of this is done by carts owned by the city, mostly Studebaker, the city hiring horses for these for \$100.00 per month, including driver. It also has a contract with the American Car Sprinkler Company, of Worcester, whereby three trolley cars are used for sprinkling purposes, which do not interfere with traffic as much as do carts.

Appropriations for street work are made in lump sums, with no directions as to the manner of use, and this makes the service very pliable and does not cause, as is often found in other cities, a surplus for one service, while another is interfered with by exhaustion of the appropriation.

The city collects all the garbage and refuse from houses and business places, except ashes from power plants. The garbage is sold to farmers for \$1.25 per wagon load of 65 cubic feet. Ashes and rubbish are placed on dumps. The total cost of collection in 1907 was \$29,000. The cost per load of 2 $\frac{3}{4}$  yards was \$1.09.

One of the particularly good features of the fire department is the use of auxiliary squads. There are two of these, each consisting of eight men, housed in separate stations in different parts of the city. They respond to practically every call, using automobiles for this purpose. By using these squads it is possible to reduce each engine and truck company by three men, thus saving about eighty men on the payroll—at least \$40,000 a year. The wagons themselves are interesting; besides carrying eight men they are equipped with four fire extinguishers, ropes, axes, door opener, lanterns, searchlight, and may carry 200 feet of hose. These wagons are speedy and always reach the fires as soon as the local companies arrive, and sometimes before. So far only two new tires per year on an average have been required for each of these cars. Before this service was organized all the men who were to be in these squads spent two months in the shops of the Knox Company, which furnished the machines, learning the details of construction and repairing of the cars and also the driving of them. Thus any man can handle or make ordinary repairs to a car. The chief and deputy chief have cars of the same make, each with two drivers trained in the same way, who always accompany the car and give assistance in fire fighting. A comparison of the annual cost of these auto squads with that of similar ones drawn by three horses in Holyoke showed a difference of \$189.20 per year in favor of the autos.

The most modern engine house in the city is Station No. 4. The firemen themselves designed the general plan of this, which seems to be excellent. The floor space is ample and many minor conveniences are found. Instead of the men all sleeping in one large dormitory, small rooms are provided, with one or two men occupying each.

In connection with the adoption of water meters the ordinary procedure was reversed, in that these were demanded by the consumers, who thought they were paying too much for water. At present the greater portion of the water is being metered. Consumers buy the meters, and the city therefore has practically no money tied up in them. It, however, furnishes the meters and keeps a supply on hand from which the consumer may select. It keeps the meters tested and in repair. No greater error in discharge than 2 $\frac{1}{2}$  per cent. is allowed. The meters used are Crown, Nash, Hersey, Lambert and Worthington disk meters, Hersey rotary and Enterprise piston. The Crown disk, Nash disk and Enterprise piston were said to be the most accurate and give the least trouble for repairs.

## NOTES CONCERNING WATERBURY, CONN.

## EDITORIAL CORRESPONDENCE

A CONSIDERABLE part of the present water supply system of this city was constructed about 1870, but a few years ago the plant was found inadequate and a new supply was obtained in Richfield, where a dam was constructed which was the highest of any in New England, except that at the Clinton reservoir of the Metropolitan Water Works, the dam being 92 feet high with a depth of 75 feet of water behind it. The reservoir formed thereby had a capacity of 735,000,000 gallons and was fed by a watershed covering 18 square miles. The country tributary to it was rugged in character and the water flowing in the mountain streams was excellent. A 36-inch pipe conveys the water 12 miles to the city, between six and seven million gallons per day being furnished.

This supply is rapidly becoming inadequate and surveys have recently been made for a new reservoir under the direction of City Engineer Cairns. The dam of the new reservoir will be located just above the present source of supply and will feed directly into the old one. A number of 6-inch test holes have been put down at the site of the proposed dam and revealed the necessity of making this about 120 feet high from bed rock to parapet. The depth of water will be 80 feet and the reservoir will have a capacity of 1,800,000,000 gallons. Work on the plans is approaching completion and it is estimated that the construction will cost between \$600,000 and \$700,000. It is probable that work on this dam will start in the near future, as permission has already been received from the Legislature to issue bonds therefor.

Last summer the city built a high pressure pipe line from an old reservoir to take care of the rapidly growing hill section of the city, an interesting feature of which was the fact that it crossed a valley of such depth that the pressure reached 190 pounds per square inch. The pipe was 14 inches in diameter, and 12-foot lengths weighing 985 pounds each were used. The joints were made of lead and have showed no leakage.

About one-sixth of the water supply is metered, mostly the larger consumers. The rates are as follows: 500 gallons or less per day, 2 cents per hundred; 500 to 2,000 gallons per day, 1½ cents per hundred; over 2,000 gallons per day, 1 cent per hundred. The city furnishes the meters and keeps them tested and in repair. At present it owns about 1,700 meters valued at \$11,000, practically all the makes being represented, eleven in number.

The city has a total of 116,500 square yards of paving, of which 47,500 are granite block, 40,000 are brick, 25,500 are bitulithic, and 3,500 are asphalt. Last year the city laid a small stretch of tar macadam in front of a school house at a cost of \$1.60 per square yard, the best of asphalt and pitch being used in the construction. Late last year a contract was let for \$45,000 worth of bitulithic at about \$2.25 per square yard, including

foundation, one of the streets to be so paved being West Main Street, where the roadway will be 100 feet wide.

Up to 1907 the sidewalks were built by the property owners and kept in repair by the city. This led to the practice of building a very cheap walk, which soon wore out. A large part of the walks already built are of tar concrete, and those which will be constructed in the near future will be of the same material, which has given entire satisfaction when properly laid. The repairs made on this class of sidewalks during the past year cost about 25 cents per square yard, and it is expected that for ten years to come no further work will be necessary on the pavements repaired. The city has constructed a small plant of its own for doing this work, which is operated by the street department under the charge of Superintendent E. G. Kilduff.

The paved streets are cleaned in the daytime by patrol system and at night by machine sweepers. Two of the latter are used, one an Abbott-Downing and the other a Hvass. The streets on which there are car tracks are sprinkled by a car sprinkler furnished by the American Car Sprinkler Company at a cost of \$100 per week. Other streets are sprinkled by carts by a contract with a local concern.

For street lighting there are 474 arc lights of 1,200 candlepower each, burning all night and every night, which are furnished and operated by the Connecticut Company at \$87.50 per year.

The city needs a new city building, as the present quarters are badly crowded and the city records are given practically no protection from fire.

## MONTCLAIR BOARD OF HEALTH

ABOUT fourteen years ago an epidemic of typhoid fever in the town of Montclair, N. J., was traced conclusively to a certain milk supply. As a result of this the Board of Health, whose services had theretofore been perfunctory, began actively working for improved sanitary and food conditions and at the present time is excelled in efficiency by few, if any, local Health Boards in the country. Its report for 1907, which is just at hand, shows that during the past few years there has been a steady improvement in the health of the town, especially as regards communicable diseases. During the year there was but one death from typhoid fever and one from scarlet fever and, for the first time in thirty years or more, there was no death from diphtheria.

During the year a bacterial analysis of the public water supply was made every other day and a chemical analysis once a month. Nine analyses of ice also were made during the summer. The water supply, which is furnished by a private company from the mechanical filtration plant at Little Falls, gave an average bacterial count of about 50 per c.c., only occasionally running over 100.

The Board has for several years past directed its efforts towards preventing the breeding of mosquitoes by the draining of ponds and marshy lands, and it is believed that practically none now breed within the town limits.

To prevent dissemination of disease by flies, all cesspools and privy vaults are declared to be nuisances and have been practically abolished.

In perhaps no other respect, however, has the Board taken a more advanced stand than in that of protecting the food supply and especially the milk. No restaurant or store in which food is sold is permitted to have direct communication with living rooms. No milk is permitted to be stored or delivered at a temperature higher than 50 degrees F. or to contain over 100,000 bacteria per c.c. During the past year it has added to the sanitary code provisions that all cows furnishing milk for consumption in Montclair must be tuberculin tested; all utensils used in treating or containing milk must be sterilized by steam; milk must be cooled to 50 degrees F. within 45 minutes of the time of milking and held at that temperature until delivery; and stables must have a window area of two square feet per 500 cubic feet of air space. These provisions went into effect last spring and within a short time all but two of the dealers supplying milk in the town had complied with all of the provisions. One of these two withdrew from the town and the other complied with all of the provisions except that of the tuberculin testing of the herds. The latter obtains its milk from 33 herds, averaging perhaps 1,000 cows each, which are located in the State of New York, and claims that it is practically impossible for it to have such test made of all the herds, since these are owned by private individuals. The State of New York has few restrictions against tuberculous cattle and is completely surrounded by states which are endeavoring to enforce such restrictions. The result is that the state has become the dumping grounds for tuberculous cattle from all the surrounding states and 25 per cent. of all the milch cows in the state are tuberculous, according to recent investigations by Dr. V. A. Moore of the New York State Veterinary College. This company serves about one-half of the population of Montclair and, owing to practical difficulties and questions of expediency connected with its withdrawal, the enforcement of this has been deferred, but the Board states its intention to require such withdrawal this spring. The town in this matter of insistence on tuberculin testing of herds has taken its stand with about a score of other cities of the country.

The excellent results obtained by this Board of Health are due fully as much to its thorough enforcement of regulations as to the character of the regulations themselves; in fact our information leads us to believe that there are very few local Boards of Health which enforce as impartially and strictly such a large percentage of the various measures looking toward the public health which have been recommended by the best sanitary authorities. It publishes annually a complete statement concerning the conditions of herds, stables, bottling houses, etc., of each milk dealer in the town, giving the name of each. Also fifteen or twenty analyses of the milk of each dealer, giving the date, fats, bacteria, lactometer reading, etc., of each sample. We believe that there is no city in the country having a higher uniform standard of milk supply. One of the poorest supplies served in Montclair is de-

livered in New York also and is there considered almost a standard of purity, and is far superior to the milk ordinarily sold in most other cities.

Many cities are now comparing their various milk supplies on the basis not only of the milk analysis, but also of the cows, stables, handling of milk, etc. The method of computing such scores may be interesting to such officials as are not familiar with them and the directions used in Montclair are given herewith.

#### DIRECTIONS FOR SCORING

##### COWS

	Perfect Score
<b>Condition and Healthfulness.</b> —Deduct 2 points if in poor flesh, and 8 points if not tuberculin-tested.....	10
<b>Cleanliness.</b> —Clean, 5; good, 4; fair, 2; bad, 0	5
<b>Water Supply.</b> —If clean and unpolluted, 5; fair, 3; otherwise, 0	5

##### STABLES

<b>Construction.</b> —For cement floor (a)* in good condition allow 2 points; fair, 1; poor, 0; wood floor (b) or other material in good condition, 1; fair, $\frac{1}{2}$ ; poor, 0; good tie (c), 1; good manger (d), 1; box stall (e), 1.....	5
<b>Cleanliness.</b> —If thoroughly clean, including floor (a), windows (b), ceilings (c), 5; good, 4; medium, 3; fair, 2; poor, 1; bad, 0.....	5
<b>Light.</b> —Four square feet of glass per cow, 5; 1 point off for each 20 per cent. less than 4 square feet per cow.....	5
<b>Ventilation.</b> —Good ventilating system, 4; fair, 3; poor, 2; bad, 0.....	4
<b>Cubic Space per Cow.</b> —If 500 cubic feet or over per cow, 3; less than 500 and over 400, 2; less than 400 and over 300, 1; less than 300, 0.....	3
<b>Removal of Manure.</b> —Hauled to field daily, 2; removal at least 30 feet from stable, 1; otherwise, 0.....	2
<b>Stable Yard.</b> —In good condition (a), $\frac{1}{2}$ ; well drained (b), $\frac{1}{2}$ ; otherwise, 0 .....	1

##### MILK HOUSE

<b>Construction.</b> —Tight, sound floor, and not connected with any other building (a), well lighted (b), well ventilated (c), 2; (d) if connected with another building under good conditions, 1; otherwise, 0; (e) if no milk house, 0.....	2
<b>Equipment.</b> —Hot water for cleaning utensils (a), 1; cooler (b), 1; proper pails (c) and strainers (d) used for no other purposes, 1 .....	3
<b>Cleanliness.</b> —Interior clean, 5; good condition, 4; medium, 3; fair, 2; poor, 1; bad, 0.....	5
<b>Care and Cleanliness of Utensils.</b> —Clean (a), 3; kept in milk house or suitable outside rack (b), 2; otherwise, 0.....	5
<b>Water Supply.</b> —If pure and clean running water, 5; pure and clean still water, 3; otherwise, 0.....	5

##### MILKING

<b>Attendants.</b> —Healthy .....	5
<b>Cleanliness of Milking.</b> —Clean milking suits, milking with clean dry hands, and attention to cleanliness of udder and teats while milking, 10; no special suits, but otherwise clean (a), 7; deduct 4 points for uncleanly teats (b) and udder (c) and 3 points for uncleanly hands (d).....	10

##### HANDLING THE MILK

<b>Prompt and Efficient Cooling.</b> —If prompt (a), 5; efficient (b), if 50° F. or under, 5; over 50° and not over 55°, 4; over 55° and not over 60°, 3; over 60°, 0; if neither prompt nor efficient, 0 .....	10
<b>Storing at Low Temperature.</b> —If 50° F. or under, 5; over 50° and not over 55°, 4; over 55° and not over 60°, 3; over 60°, 0 .....	5
<b>Protection During Transportation to Market.</b> —If thoroughly protected (iced), 5; good protection, 4; partly protected, 2; otherwise, 0 .....	5

100

##### SCORE

If total score is 90 or above and each division 85 per cent. perfect or over, the dairy is **Excellent** (entitled to registry).  
 If total score is 80 or above and each division 75 per cent. perfect or over, the dairy is **Good**.  
 If total score is 70 or above and each division 65 per cent. perfect or over, the dairy is **Fair**.  
 If total score is below 70 and any division is below 65 per cent. perfect, the dairy is **Poor**.

\*The letters a, b, c, etc., should be entered on score card to show condition of dairy, and when so entered should always indicate a deficiency.

##### Dairy Scores for 1907

Name of Dairymen Dealer	Cows	Stables	House	Milking	Ratings		
					Milk	Handling	Total
Perfect Score.....	20	25	20	15	20	20	100
1.....	20	24	20	15	20	20	99
2.....	19	24	20	13 $\frac{1}{2}$	20	20	96 $\frac{1}{2}$
3.....	19	24	20	12	20	20	95
4.....	19	20 $\frac{1}{2}$	19	14	19	20	91 $\frac{1}{2}$
5.....	18	20 $\frac{1}{2}$	19	12	20	20	89 $\frac{1}{2}$
6.....	19	18 $\frac{1}{2}$	19	12	20	20	88 $\frac{1}{2}$
7.....	19	21	18	11	18	18	87
8.....	18	21	17	11	17	17	84
9.....	19	18 $\frac{1}{2}$	19	12	15	15	83 $\frac{1}{2}$
10.....	18	14	19	12	20	20	83
11.....	18	16 $\frac{1}{2}$	16	12	20	20	82 $\frac{1}{2}$
12.....	18	17	15	12	19	19	81
13.....	18	12 $\frac{1}{2}$	18	12	19	19	79 $\frac{1}{2}$
14.....	19	14	17	11	17	17	78
15.....	13.2	15.8	16.8	11.3	19.0	76.1	76.1
16.....	18	13	11	11	17	17	70
17.....	17	16	8	11	16	16	68
18.....	17	14	7	10	14	14	62

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## CHANGE OF ADDRESS

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It is further requested that our Subscription Department be notified if copies are not received promptly.

Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

APRIL 8, 1908.

## CONTENTS

Public Works and Service of Springfield, Mass. (Illustrated) . . . . .	429
Notes Concerning Waterbury, Conn. . . . .	431
Montclair Board of Health. . . . .	431
Fight the White Plague. . . . .	433
Chicago Statistics. . . . .	433
Sewage Disposal in Pittsfield, Mass. (Illustrated) . . . . .	434
School of Instruction for Police. . . . .	435
Taunton's Municipal Lighting Plant. . . . .	435
Municipal Lighting at Holyoke. . . . .	436
Gas and Oil Pumping Plants. . . . .	436
News of the Municipalities. . . . .	437
Legal News—A Summary and Notes of Recent Decisions. . . . .	443
Municipal Appliances (Illustrated) . . . . .	445
The Week's Contract News. . . . .	446
Trade Notes . . . . .	456
Patent Claims . . . . .	456
Incorporations . . . . .	456
News of the Societies. . . . .	457
Personals . . . . .	457

## Fight the White Plague

In spite of many striking demonstrations of its efficacy, vaccination is still opposed by many people; and in spite of the almost complete suppression of yellow fever in Cuba by mosquito extermination, many still consider these insects to be much maligned. Most of us, however, are ready to believe that the enormous reduction in mortality from these diseases is attributable to these means. In this country consumption causes from 12 to 14 per cent. of all deaths. Sanitarians now believe that this is as unnecessary as were the smallpox scourges of past centuries and it is time that all practicable steps be taken to protect our citizens from the white plague, even though many obstructionists deride the measures recommended. The street cleaning department can help by preventing the blowing about of dried sputum in the street dust. The police can enforce anti-spitting laws. Crowded and unsanitary housing conditions can be abolished. Health Boards, besides encouraging these activities, can protect the citizens from infection from milk from tuberculous

cattle. Montclair's stand, described in another column, places her in line with about a score of cities in this country; and others should rapidly follow her example. It seems possible to save 100,000 lives a year in the United States by strenuously fighting this disease—a fight certainly worth while for every one to take a part in.

## Chicago Statistics

THE report of the Bureau of Statistics of the city of Chicago for the year 1907 has just been issued and these, as usual, are more complete than those compiled by any other city in this country, we believe. They cover the several departments of the municipal administration, such as police, health, education and those concerning the commerce and traffic of the city.

During the year 257,370,069 lineal feet of streets were cleaned, from which were removed 826,787 cubic yards of dirt at a cost of \$738,650.44, being \$15.15 per mile cleaned and 89 1-3 cents per cubic yard. This was about 90 per cent. greater length of street cleaned, about 40 per cent. more dirt removed, and about 90 per cent greater cost than in 1906. Of inlets (openings to catch-basins) 1,184,165 were cleaned. Of a total of 67,016 catch-basins in use 24,974 were cleaned, or about 37 per cent. The average cost of cleaning catch-basins was \$3.86. There were in the city at the end of the year 1,726.8 miles of sewers, of which 564.6 were cleaned during the year at a cost of \$61,425.10, or \$108.78 per mile cleaned. There was in the city a total of 1,576.05 miles of improved streets and 2,675.19 of unimproved.

During the year 162,266 cubic yards of pure garbage were removed at a cost of \$338,755.34 and 1,228,763 cubic yards of ashes and rubbish at a cost of \$684,327.48. The population of the city is estimated at 2,540,896, and the garbage was therefore .064 cubic yards per capita, and the ashes and rubbish .484 cubic yards. The garbage was all taken to a crematory. Snow removed cost \$1.42 for each of 35,166 loads.

Commercial companies owned 25 central light stations and operated 20,614 arc lamps and 2,024,644 incandescent lamps equivalent to 16 candle-power. The city operated 4 street lighting plants which furnished current to 7,647 arc lamps. There were 1,380 isolated private plants and 13 isolated city plants. The cost of the municipal plants per arc light was: Operating, \$49.93; replacement and betterment, \$2.61, and office expenses, 39 cents, a total of \$52.93. The lamp hours were 30,702,705, or about 4,000 hours per lamp. This cost of electric lighting, it is seen, does not include fixed charges. For lighting the streets, gas is used to the extent of 935,260 candle-power, gasoline 403,740 candle-power, electric lights 16,894,000 candle-power. Of the gas lights 11,651 were mantle and 11,084 open flame; 60,739 gasoline lights were used and 8,447 electric lights.

During the year there were 3,430 street railway accidents, of which 150 were fatal, and 1,588 accidents due to vehicles, of which 80 were fatal.

The municipal lodging house gave 23,643 lodgings and 47,284 meals. It also supplied 5,568 situations. Of those

helped, the American and foreign born were almost exactly equal in number. At the thirteen free baths, 709,826 baths were taken. The ten municipal playgrounds were used by a total of 1,585,960. The free bathing beaches, which were open from June to September, inclusive, were used by 449,512. In every case the attendance was less during 1907 than during 1906, at both bathing beaches, playgrounds and baths. The same decrease in attendance at municipal baths in 1907 has been noticed in two or three other of the larger cities from which statistics have been received.

#### SEWAGE DISPOSAL IN PITTSFIELD

EDITORIAL CORRESPONDENCE

THE separate system of sewage is in use at Pittsfield, Mass., and the street water is discharged into several streams through the town. The domestic sewage amounts to between two and three million gallons per day. The east and west branches of the house sewerage system empty into a reservoir at the pumping plant which holds about 1,500,000 gallons, or about 16 hours' flow. This reservoir is made in three sections, each 30 feet wide by 200 feet long. The sides and floor are of concrete and the roof is of brick, covered with earth and sodded. Pumps draw the sewage from this reservoir, with a suction lift of 16½ feet, and discharge it against a head of 23 feet through a 28-inch force main to the filter beds two and a quarter miles away. The pumps were made by the Platt Iron Works of Dayton, Ohio. The first one, installed about five years ago, had a capacity of 200,000 gallons per hour and showed an efficiency of 73 per cent. with a power consumption of 60 horsepower, which was 15 horsepower less than had been guaranteed. A new pump made by the same company was put into service late last year. It has a capacity of 300,000 gallons per hour on 93 horsepower, which is 22 horsepower less than guaranteed, showing an efficiency of 78 per cent. These are both driven by Stanley synchronous motors, power being purchased from a local concern at \$40 per horsepower per year. The pumps are operated only eight hours per day, the reservoir holding the flow during the idle period. At present there are about twenty-eight acres of filter beds, which are of the ordinary intermittent type. These are to be increased this year.

The new sewage pump is a triplex double-acting clapper valve pump with a piston 22 1-6 inches in diameter and with a stroke of 18 inches. The piston rod is 2¾ inches in diameter. This pump is driven by a two-phase synchronous motor making 900 revolutions per minute. It is started with a two-phase 7 horsepower induction motor made by the same company. The field of the synchronous motor is excited by a belted D. C. generator made by the General Electric Company, which is capable of developing 12 amperes at 120 volts. The cost of the new installation, including pump, motors, switchboard and foundations complete was about \$12,000.

The original cost of the disposal plant including pumping station, pipe lines and filter beds was about \$250,000. The annual appropriation for sewage disposal is \$8,000.

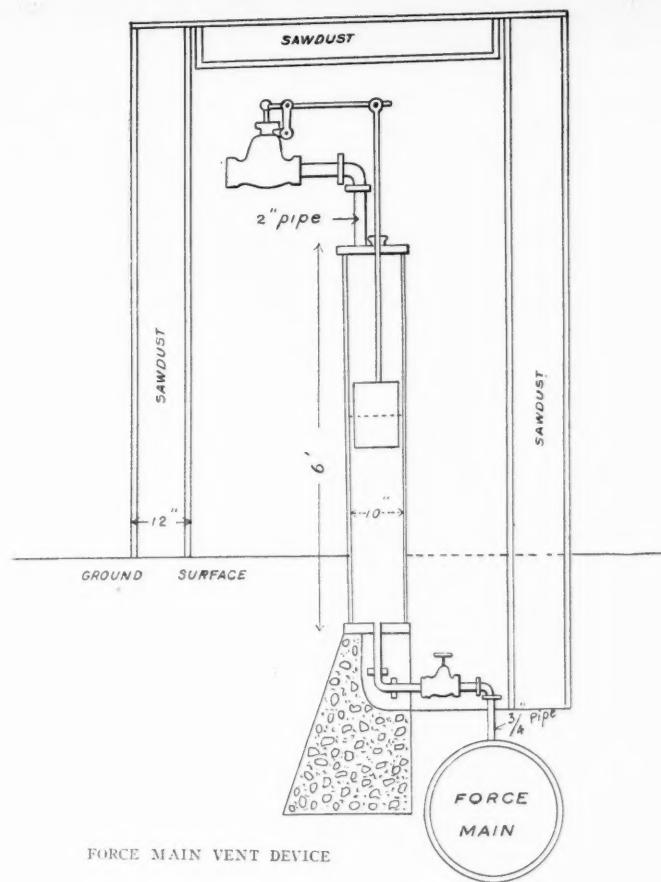
The itemized cost for the pumping plant during the year 1906 was as follows: Labor, \$1,729.92; power, \$2,111.87; supplies and repairs, \$218.63, which included the repair of a broken shaft.

Interruptions to the pumping service due to electrical failures have been very slight and have been due to the lack of maintenance by the power company. No cases of electrical breakdown in the station itself have been reported. The breaking of a crankshaft and the replacing of it caused a shutdown of four weeks last summer.

An interesting feature of this plant is the protection of the pumps against hammer due to the collection of air in the force main. The device for preventing this was designed by W. E. Staples, engineer of the pumping plant, and is now being manufactured by the Ashcroft Gauge Company. The force main leading from the pumps to the filter beds is not laid to uniform grade, and there are therefore numerous air pockets in which air accumulates and is gradually compressed. It is sometimes forced along without being noticed, but at others is suddenly released, causing a vibratory movement of the liquid in the pipe, which raises the pressure above the 15 pounds which the pump is designed to operate against. Vent pipes have, of course, been provided, but these do not entirely remedy the difficulty.

At the point on the pressure gauge which indicates 20 pounds has been fastened a piece of copper, insulated from the gauge by mica. This copper is connected to an electric circuit operated from the 110-volt lighting line. The other wire of the circuit is connected to the metal frame of the gauge. When for any reason the pressure in the pipe line reaches 20 pounds, the gauge pointer makes contact with the copper strip, thus closing the circuit. The wires from the gauge lead to an electro-magnet placed near the operating mechanism of the Hill clutch. When the pump is put into operation this clutch is thrown in by means of a hand wheel which is held in place by a dog, a spiral spring being provided which tends to release the clutch. When the gauge pointer closes the circuit the electro-magnet becomes operative and moves a lever which releases a small weight. This weight in falling strikes another lever which releases the dog, and the spring then forces open the clutch. When the pump has been stopped in this way, it is started again slowly by the engineer and the air gradually worked out of the pipe.

Another device of Mr. Staples applied to this line is used in connection with the vent pipes. The new pump, owing to the greater velocity which it will give to the sewage, will increase the pressure in the force main, and this would necessitate increasing the height of the vent pipes to prevent an overflow from the same. This necessity was avoided as follows: A 3/4-inch pipe leads from the force main to a standpipe, which is 10 inches in diameter and 6 feet high. It was first intended to use a 2-inch pipe, but it was found that the rapid admission of air would crush the float. This float is made of copper, 9 inches in diameter and 12 inches long, rein-



forced by wires. It is connected by a stem, passing through a stuffing box, to a Fuller balanced gate valve. As the water rises in the standpipe the float is lifted and closes the valve so that no water can escape. When air accumulates at this point it gradually displaces the water and the float is allowed to sink, thereby opening the valve and permitting the egress of the air. A check valve is used to prevent an inrush of air when the pump is stopped. It is expected that four of these will be used on the line, the cost of which is estimated at \$40 each.

#### School of Instruction for Police

In the report of the New York Police Department recently submitted by Commissioner Bingham, attention is called to the importance of giving instruction to the police and especially the recruits. "Unfortunately, as matters now stand, recruits cannot be kept on probation longer than one month. This period should be extended to at least three months." During this time they should be instructed and tested in the school of instruction, which is at present conducted in the old 69th Regiment Armory. Here both class room work and drill are given. In the class room instruction is given in the laws of the State relating to the Penal Code, the Code of Criminal Procedure, Corporation Ordinances of the city, rules and regulations of the Police Department, making of reports, powers of arrest, rules of evidence, arraignment of prisoners, drawing up of affidavits, duties at fires, rules of the road and the auto law, etc.

During the year 1907 there was added to the course of instruction an imitation of a police magistrate's court,

which has proved of great value in teaching recruits how to behave in court, handle their prisoners, make out court papers, etc. This moot court has been of especial assistance in helping green men to obtain convictions. Lectures on first aid to the injured are given by the generous service of volunteer physicians.

The drill consists practically of the same movements as are used in the regular army, with certain modifications suggested by the different conditions.

Probationary patrolmen report at the school each day at nine and remain until three, with one hour out for dinner. At 8 p. m. they report at their respective precincts and accompany the active patrolman on patrol to obtain a practical knowledge of the duties. They return to the station house at midnight.

A proficiency record showing the progress made in the school of instruction is made the basis of a rating given by the lieutenant in charge. At the close of the probationary term the proficiency records are transmitted to the inspector and the probationary patrolmen are personally examined in all of the subjects embraced in their instruction by the inspector in charge of the school, who reports the results to the Police Commissioner.

#### Taunton's Municipal Lighting Plant

DURING the year ending November 30, 1907, the municipal lighting plant of Taunton, Mass., appears to have been operated at a financial profit. During this year motors using 228 H.P., 2 arc lights and 2,000 incandescent lights were added to the commercial service, and the income from commercial current was \$3,368.73 greater than the year previous. The department receives no cash from the city for street lighting and other service, but an appropriation was made for interest on bonds and sinking fund.

The street lights burn all night and every night. There were at the end of the year 720 street lights in use, of which 274 were enclosed arc and 446 incandescent, this being an increase over the preceding year of one arc and 165 incandescents. The average number of lights operated for the year was 273½ arcs and 360 incandescents. Part of these incandescents replaced 118 naphtha lights, a total of 268 naphtha and 33 gas lights having been replaced by electric incandescents since the introduction of electric lighting. The station is now operating to its full capacity and at times with an overload. The equipment has just been increased by the addition of a 1,500-K.W. turbo-generator. It will be necessary to add two more boilers in the near future.

The finances for the year were as follows: Receipts from light and power sold, \$58,157.58; from lamps, carbons and discarded material, \$294.74. There was also remaining on hand material purchased to the value of \$2,270.84, making a total of \$60,723.16. The total cost of maintenance was \$43,211.44. Depreciation at 3 per cent., \$9,939.54; interest, \$12,371.39; a total of \$65,522.37. This leaves a balance of \$4,799.21 as the cost of street lighting. This method of accounting is in accordance with the rules of the Gas and Electric Light Commissioners. In this the maintenance includes coal, water,

station wages and other expenses, repairs to the various parts of the plant, lamps, etc., and other ordinary maintenance expenses; also the salary of the manager, office expenses, insurance, legal expenses, etc.

The depreciation funds show a total of \$34,012.60 paid into it. A cash balance of \$7,085.91 remaining at the end of 1907 was added to this fund by vote of Council. Renewals are paid for from this depreciation fund, and during the year there was paid for real estate, transformers, meters, lines and on the steam plant, \$10,085.57. There was also transferred to the construction account the sum of \$15,000, to which was added \$45,000 from the sale of bonds, about \$50,000 of this being used in construction work on the steam and electric plant, lines, transformers, meters, etc., for extending the street lighting service and sale of commercial current.

There are now outstanding bonds to the extent of \$365,500, and the Sinking Fund Commission has in hand on this account \$63,953.55. It is seen that the interest fund is therefore sufficient to pay 4 per cent. on the net bonded indebtedness.

If there be allowed, in addition to the maintenance, depreciation and interest, \$2,000 for lost taxes, and if it be assumed that five incandescents are equivalent in cost to one arc light, the cost per arc would be \$19.65, and for incandescents \$3.93. Mr. Abner Coleman was the manager of this plant.

#### Municipal Lighting at Holyoke

THE report of the Gas and Electricity Department at Holyoke, Mass., for 1907 seems to show the attainment by it of greater success than has been reported by almost any other municipal lighting plant which has come to our notice. This is the fifth annual report of the department and the value of the plants, both gas and electricity, which they operate is given as follows:

Cost of gas works, to November 30, 1907.....	\$594,801.28
Depreciation .....	15,097.50
Present value .....	579,703.78
Cost of electric plant, to November 30, 1907.....	535,816.72
Depreciation .....	12,964.18
Present value .....	522,852.54

#### GAS PLANT

During the year the amount of gas sold was 20 per cent. greater than in 1906. As there had been gains during the previous years also, the capacity of the plant was more than reached, 678,000 feet of gas per day having been forced through apparatus designed for only 500,000; and the manager very properly called attention to the necessity for very materially increasing the capacity of the apparatus. During the year there was added to the gas works a duplicate set of water gas apparatus, doubling the capacity of the water gas plant, as well as adding to its reliability.

There are now in use 44.6 miles of gas mains and 8,152 meters, 7,656 of which are three-light meters. More than one-half, or 4,672 are prepay meters.

There were employed permanently at the works five foremen, 21 stokers, 2 water gas helpers, one coke man, 2 purifier helpers and 3 firemen; and on the street, 3 inspectors, 1 repair man, 2 foremen and 2 street men. In

addition to these, there is a superintendent, a clerk and a meter and complaint man.

During the year the expenses for coal were \$47,821.20, for oil, \$14,358, and for labor, \$35,255.25. Repairs cost \$12,609.01, and supplies and other expenses brought the total up to \$117,358.41. Interest to the amount of \$14,371.87 and depreciation \$15,506.14 were entered as expenses. The income from the sale of gas was \$150,060.68 and the coke and tar \$7,615.98. After allowing for bad debts there remained a profit of \$9,981.67.

The price of gas during the year was \$1.00 per 1,000 feet. During 1906 the price had been \$1.20, but the reduction of 20 cents seemed justified by the accounts of the previous year and, in spite of the reduction, the income for 1907 was \$2,400 greater than for the previous year.

#### ELECTRIC PLANT

The electric station delivered 28 per cent. more current than during 1906 to 21 per cent. more customers through 37 per cent. more meters. Eighty-six poles and 11½ miles of wire were added during the year. There are now 869 customers, 130 of which use the current for power. There are 178½ miles of wire in the streets and 262 poles. The current is furnished for 513 street arc lamps, 431 commercial arc lamps and 44 street incandescent lamps.

The expenses during the year were: coal, \$16,307.39; supplies, \$6,535.74; water power rental, \$19,543.51; pay roll, \$30,085.70; and other expenses bring the total up to \$85,617.64. There is also charged against the plant \$12,744.87 as interest and \$13,769.09 as depreciation. The income was \$157,166.96, and after allowing for bad debts the profit was \$44,949.23. The income would have been \$10,000 greater but for a reduction from \$80.00 to \$60.00 in the price paid by the city for street lights. The price of electricity for commercial lighting was 10 cents net. Beginning with February 1st of this year the price is reduced to 6 cents net, which compares favorably with most cities and towns in this part of the country. There are employed by the department of electricity a superintendent, foreman, 3 engineers, 4 oilers, 4 firemen, 3 dynamo men, 7 trimmers, 8 line and repair men and 3 laborers.

#### Gas and Oil Pumping Plants

A GAS and two oil plants have recently been installed and tested in Massachusetts cities by Edmund M. Blake, of Boston. A 50-horsepower Olds horizontal gas engine, 40 to 60-horsepower section gas producer and 8x12 Smith-Vaile vertical triplex pump, at Westford, in a 24-hour test, using anthracite pea coal, running with 80 per cent. of full load, figured with 1 per cent. slip, showed a duty of about 146,000,000 foot pounds per 100 pounds of coal actually burned in the producer. At Wrentham a single 25-horsepower Mietz & Weiss fuel oil engine, direct connected to an 8x10 Smith-Vaile vertical triplex pump, at three-quarter load, consumed 1.95 pounds of fuel oil per horsepower hour developed at the pump. A similar plant, but in duplicate, at Wareham, at three-quarter load, consumed 1.93 pounds of oil per horsepower hour.

## NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

## ROADS AND PAVEMENTS

## Government Aid in Building Highway

Ensley, Ala.—After reviewing the situation, Vernon M. Peirce, Chief Engineer of the Department of Public Roads of the United States Department of Agriculture, advises that a road be built 60 feet wide from Ensley to Graymont, from which point local authorities will complete the highway to the center of Birmingham. Mr. Peirce suggests that all the interested property owners give right of way free of cost, and that no move be made toward the improvement until that is done. The Department will assign one of its assistant engineers to take full charge of the construction, free of cost to the county.

## City Wants Paving Competition

Louisville, Ky.—The Board of Public Works has employed A. W. Dow, chemical engineer, of New York City, to go over the streets of Louisville, and confer with Chief Engineer J. P. Claybrook, with a view of changing the specifications for asphalt so as to secure more competition in bidding.

## Big Saving Expected from Direct Labor System

New Orleans, La.—Some months ago the Sewerage and Water Board advertised for bids for the remainder of the sewerage system. When the bids were opened, it was found that the estimates had been exceeded in all instances by 44 per cent. or more, the difference amounting to \$300,000. The bids were rejected, and the General Superintendent was ordered to employ forces, purchase materials and proceed with the work. The Superintendent organized a force of the most competent sewer foremen and workmen obtainable, and the figures of the work, so far, seem to show that they will do the work at a cost within the Engineer's estimate.

## To Raise Street Grade Fourteen Feet

Pittsburg, Pa.—Owners of Sandusky street frontage, North Side, will be asked to waive rights to damages as the result of raising and repaving the thoroughfare. According to the plans prepared by the City Engineer, the grade will be raised in places 14 feet, placing it entirely above flood level. The movement was started among the large property owners of the street, on observing the good results obtained in raising Seventh street. It is expected that in time all the streets in the section will be raised above flood level.

## New Paving Law in Rochester

Rochester, N. Y.—The present paving law, which allows the property owners on a street to designate, after the bids are received, not only the kind of paving to be used on their street, but even the particular brand or manufacture, has been amended by the Legislature so that in future only the kind of material may be so selected. Of the bids received, the lowest of the kind designated must be selected. In the past, the law has had a tendency to raise paving prices, because collusion between high bidders and controlling factions of property owners has been encouraged, there being no law to prevent a property owner from signing a petition for the purpose of securing an unfair advantage over his neighbor in the matter of price.

## A Comparison of Cities and Streets

San Jose, Cal.—In a general discussion of the street problem, comparison has often been made of the condition of the pavements in Pasadena, much to the advantage of that city. Seeking a reason for this difference, the editor of a daily paper finds that whereas the population of San Jose is about twice that

of Pasadena, the revenues are less by \$216,290, as compared with \$381,169. The tax rates are substantially the same, but Pasadena contains many rich residents and valuable residences, the assessed valuation being \$29,320,765, as compared with \$16,897,710, the valuations being considered in both cases as fair. Under the circumstances, it seems natural that the richer city should have things that the poorer one could not.

## Paving Procedure Under Newport Charter

Newport, R. I.—Thames street, it was agreed, needed paving, but, as to kind and quantity, opinions differed. The Street Commissioner recommended granite block, the Board of Aldermen recommended Hassam, Mayor Clark, in his inaugural address, expressed a preference for brick, and there was a movement on foot for wooden blocks. The committee of twenty-five of the Representative Council recommended granite blocks from Marlborough to Cannut street, at a cost of \$25,000, and Council approved. Referendum petitions were started for repaving the whole street with various materials. After waiting thirty days, as allowed by the Charter, Council voted to appropriate \$69,000 to pave the whole street with granite. No petition was presented in the seven days allowed to call a vote to pass on this action, so the street is to be paved with granite, and the city is saved the expense of an election.

## Model Boulevard in Paris

Paris, France.—Plans have been approved for one of the greatest and most beautiful boulevards in the world. It will be a continuation of the Champs Elysees to the forest of St. Germain, ten miles away. Throughout its entire distance it will be 150 feet wide, and will follow an absolutely straight line. It will contain foot paths, wagon roads, electric tram lines and speedways for automobiles. All level crossings will be avoided, railroads and even ordinary roads being carried over or under the new thoroughfare. It is proposed to line a portion of the boulevard with model tenements, designed to house small wage-earners.

## SEWERAGE AND SANITATION

## Sewage Disposal Might Save Money

Atlanta, Ga.—At a meeting of the Chamber of Commerce Bond Investigating Committee, City Engineer R. M. Clayton gave the members a general review of Atlanta's sewerage system, and expressed his belief in the need of a disposal plant, which would require a bond issue of about a million dollars. He informed the committee that the city has seven trunk sewers, and that each sewer would have to have a separate plant of septic tanks and sprinkling filters, which would cost \$100,000 or \$150,000 each. The disposal system would result in a considerable saving of money, as the city has suits filed against it every year from persons owning property at the mouth of the trunk sewers.

## Milk Standards in Bay State

Boston, Mass.—So many milk bills have been introduced, all seeking to change the existing standard, that the Legislative Committees have closed their hearings and will take time to study over information obtained from experts. The Board of Agriculture wishes to have the standard lowered in winter below the present requirement of 13 per cent. of solids, and permit the sale of milk of still lower standard when accompanied by a certificate as to what its standard is. Many farmers claim the present standard actually encourages adulteration.

### Puzzled to Trace Typhoid

Mount Holly, N. J.—An analysis of a sample of the water supplied to Mount Holly by the local water company has been made public by Dr. R. H. Parsons, Health Inspector, and shows that the water is in no way polluted. The local company draws its water from Rancocas Creek and filters it, and there have been numerous charges that it is impure. Dr. Parsons is now at a loss to account for the typhoid fever outbreak, as he is not yet satisfied with the results of the numerous investigations he has made, as new cases have been reported. He declares that there is no cause for alarm in Mount Holly over typhoid fever, as five cases do not make an epidemic in a town with 6,000 population.

### To Carry Sludge to Sea

Providence, R. I.—A contract has been awarded by the Commissioner of Public Works for building a dock at Field's Point, to be used in connection with the extended precipitation works. This dock is to be built similar to the old-style ferry slips, with an overhead bridge, to which cars will be run loaded with sludge from the precipitation beds. The solids will be dumped in scows, which are to be made fast under the bridge for the convenience of that work. The scows will be towed to deep water somewhere down the bay at points to be designated by the Harbor Commissioners, and there freed from their loads.

### Sanitary Conditions Improved at Golden Gate

San Francisco, Cal.—The Federal Health Officer reports that health conditions are improving and that, if present efforts are continued, there will be little or no danger of an epidemic. The Citizens' Health Committee reports that it has collected for the sanitation fund nearly \$100,000. It is estimated that 500,000 rats have been killed since last September, and this figure is being increased at the rate of 10,000 a week. It is said that in Yokohama when the fight was made against them 4,000,000 rats were killed. As soon as the crisis has passed, an effort will be made to have the legislature provide for such work in the future, so that the expense will not again fall on private purses.

### Move to Better Sanitation

San Angelo, Tex.—The main discussion at a recent Business Club meeting was sanitation. Two committees were appointed to look into the question, examine ordinances and make recommendations. A resolution was adopted asking the Council to pass an ordinance requiring connections with the sewers in the main business section.

### Fertilizer in Vegetable Wagons

San Francisco, Cal.—The Citizens' Health Committee has ordered the inspection of all fruit and vegetable wagons bringing produce to the city, as it is alleged that many of them carry garden truck to the markets and take fertilizer back.

### Rigid Inspection in Schenectady

Schenectady, N. Y.—Inspection of milk by the Health Department is to be much more rigid and thorough than in past years. A testing laboratory will be furnished in a room adjoining the office of the Health Officer and equipped with a Babcock tester having a capacity of twelve bottles and other apparatus. The Milk Inspector has been made a State Inspector and will now have the right to inspect dairies outside the city.

### Better Sanitation Demanded at Tonawanda

Tonawanda, N. Y.—An indignation meeting of the residents of Hyland avenue and Park street district was held recently and the matter of forcing the city to sewer that section and properly sidewalk the streets was taken up. Conditions have become so unsanitary that the residents have engaged an attorney, and unless conditions are improved at once the grievance will be placed before the State Department of Health.

### WATER SUPPLY

#### Graft in Chicago Meter Bureau

Chicago, Ill.—Superintendent W. J. McCourt, of the Water Bureau, who was appointed a few weeks ago, after winning the highest position in a merit test for the place, has demonstrated his efficiency by unearthing a system of graft by which the city has lost millions of dollars. As a result of the revelations, some forty employees, including a division head, were dismissed. Through the use of tampered meters and supposedly under the connivance of city employees, the bills of large consumers were made out for much less quantities of water than they consumed. Besides, great shortages have been discovered in the stock of supplies. The bureau also employed much unnecessary help and the number has been decreased by the new Superintendent from 200 to 50 men.

#### Cincinnati's New Water Plant Inspected

Cincinnati, O.—Under the escort of Chief Engineer Benzenberg, Mayor Markbreit and other city officials left the City Hall on a special trolley car and visited the Western Hills pumping station on Queen City avenue, the river station at California, O., and the main station on Eastern avenue. The Chief Engineer explained the machinery and method of operation at each station and stated that the new works are about completed with the exception of the settling reservoir, which he expects to be finished by July, when the entire plant will be turned over to the Board of Public Service.

#### Estimate of Value of Pure Water

Cincinnati, O.—Health Officer Brown has made a report to the Board of Public Service, which sets forth, in a striking manner, the value to Cincinnati of the clear water plant now in operation. After showing the gradual reduction in the number of cases of typhoid as the percentage of clear water delivered increased, he makes a comparison of the record of four winter months of 1906-1907 with the same months of 1907-1908. The former showed 695 cases and 66 deaths; the latter 89 cases and 24 deaths. This saving of 42 lives and 604 cases of sickness he figures in money value to the community. Reckoning the value of a human life at \$1,500 and a case of sickness at \$200, the saving is \$183,800.

#### Ohio Adopts Pure Water Bill

Columbus, O.—The pure water bill, introduced by Representative W. E. Bense, has passed the House and Senate. According to its terms, whenever the State Board of Health ascertains that the public water supply is contaminated, the Board gives the officials of the municipality or corporation a hearing. If improvements are necessary, the Board, on approval of the Governor and Attorney General, shall issue orders for installation of sewage disposal or water purification plant. Local boards may compel the State Board of Health to act by filing complaint.

#### Price and Measurement of Water

Hoboken, N. J.—Comparisons of the cost of water under the present contract with the Hackensack Water Company with the offer of the Jersey City Water Department are being made. The city collects from consumers, according to meter readings, \$1.35 per 1,000 cubic feet, then deducts 15 per cent. and pays the balance to the company. This nets the water company approximately \$152 per million gallons, meter readings. However, the company makes no charge for water used for fire purposes, flushing the streets and sewers, parks and city hospital. As meter readings are not less than 80 per cent. of the pumpage, even in cities that are thoroughly metered, the net price to the water company is not more than \$121.60 per million gallons, delivered at the main, and may be much less. Jersey City offers water at \$60, measured by meter on the main at point of delivery.

**Water Plant About Ready**

Newton, Miss.—The city's \$40,000 water works plant will be ready for operation in a very short time, and will be one of the best of its size in the State. The water is furnished by a well about 300 feet in depth. This water is pumped into a 120,000-gallon reservoir, and thence to a 75,000-gallon metal tank, by means of a compound non-condensing pump. In addition to this pump, which is sufficient to take care of ordinary fire service, there has been installed another 750-gallon standard underwriter fire pump, for use in case of emergency.

**Better Water for Residences**

Pittsburg, Pa.—A short time ago partially purified water was delivered to the high-level residential district instead of to the downtown section. About half of the amount now used in the residence district passes through the new filter beds and the other half has been partially purified by standing in the sedimentation basin at the filtration plant.

**Company Declines Franchise; Municipal Water**

Tarentum, Pa.—The Allegheny Valley Water Company, which supplies Tarentum, has rejected the ordinance recently passed by the Tarentum Council, giving the company a twenty-year franchise. The ordinance provides for a reduction in rates of almost one-half. The company intimated that after April 1 the rates would be increased. One excuse given for not accepting the ordinance is that the corporation must earn enough money to pay interest on \$100,000 worth of stock and \$400,000 worth of bonds and with the decreases in rates provided by the ordinance this could not be done. Council has instructed the Borough Solicitor to draft an ordinance authorizing a bond issue for building a municipal water plant.

**Toronto Water Works Surplus**

Toronto, Ont., Can.—The city water works show a surplus for 1907 of \$33,206. The receipts were \$536,615 and the expenses \$503,409. This includes the payment of all charges of interest and the sinking fund to retire the debentures. Operating expenses were \$215,000, cost of rating and collection \$35,000, and debt charges \$253,409. The operating charges in 1906 were \$190,175, and debt charges \$224,591. This is the second surplus since the rates were cut in half in 1899. From 1900 up to 1905 there was a deficit of \$232,000.

**Water Refused to Dwelling**

Poughkeepsie, N. Y.—Application was made to the Board of Public Works to run a water pipe to a residence just beyond the city line. It seems that the lot on which the house stood was partly within the city limits and it was proposed to place a meter on the pipe within the city. The opinion of the City Attorney was that, as the house was not in the city, it could not be done, and the application was accordingly refused.

**Twenty-inch Water Main Discovered**

Springfield, O.—While excavating for the new Big Four passenger station, a 20-inch water main was discovered of which the city had no record. Had the existence of the main been known the railroad would have been obliged to stand the cost of removing it or enclosing it in a tunnel. As it is, however, the city will be obliged to bear the cost, which will be about \$20,000.

**Revision of Water Rates**

Woonsocket, R. I.—The City Council Water Committee and the Water Commission have agreed on a new schedule of rates. The rate for the maximum quantity was raised from 10 cents per 1,000 gallons to 15 cents, and, from the latter price, the schedule is scaled in 2 1-2-cent steps up to 30 cents a thousand gallons for the minimum quantity. It was decided to abandon faucet rates and to charge entirely by quantity, with the minimum rate dropped from \$10 to \$8 per year.

**STREET LIGHTING AND ELECTRIC POWER****Big Power Dam Swept Away**

Buchanan, Mich.—The large power dam, erected in the St. Joseph river here fourteen years ago at a cost of \$250,000, was carried away recently, having been weakened by recent floods. The dam was 500 feet long, and only about twenty feet of it remain at each end. It furnished power to Niles and South Bend, Ind., and was owned by Charles A. Chapin, of Chicago, Ill.

**Would Sell Its Lighting Plant**

Hamilton, Ont., Can.—The Cataract Power Company has announced that it is prepared to sell its lighting plant to the city. The company is willing to supply the power, or the city may purchase it from the Hydro-Electric Commission. The city is now having estimates for a municipal plant prepared. Another proposition regarding the street railway is to install a new system, if the city will consent to it, receiving 6 per cent. on the capital stock. It offers to divide all surplus receipts above fixed charges with the city, giving it 55 per cent. and taking 45 per cent. itself.

**Electrical Inspection Ordinance**

Jacksonville, Fla.—An ordinance has been passed regulating electrical wiring and apparatus in the city. All construction and appliances shall be in conformity with the rules and regulations set down in what is known as "The National Electrical Code of Rules and Requirements of the National Board of Fire Underwriters for the Installation of Electrical Wiring and Apparatus." The inspection will be under the control and supervision of the City Council, which will employ one or more competent persons to inspect the work.

**Promises of a New Company**

Jersey City, N. J.—The Mutual Benefit Electric Light and Power Company has filed with the City Clerk its application for a general franchise in the streets for the purpose of laying wires. This is the first formal step in the effort of the new company, of which James M. Seymour, of Newark, is president, to enter the field of supplying electric light and power in Hudson county in opposition to the Public Service Corporation. The Mutual Benefit Company offers in consideration of receiving a franchise to charge a maximum rate of eight cents per kilowatt, with a 5 per cent. discount for prompt payment. It also offers to put all its wires underground and to pay to the City Treasurer annually 5 per cent. of the gross receipts in addition to its legitimate taxes.

**Newark May Supervise Electrical Work**

Newark, N. J.—An ordinance has been drawn up by the Municipal Lighting Committee for the supervision and inspection of all electrical appliances in the city and the appointment of an Electrician at a salary of \$1,800 a year to serve for five years. The inspector will not be supreme in the condemnation of work that violates the ordinance, but subordinate to the Superintendent of Buildings. The power to appoint assistants is given to the Mayor and Common Council, who will exercise it on recommendation of the Superintendent of Buildings. The maximum penalty for violations is \$50.

**Lights Instead of Police**

Norfolk, Va.—Councilman Collins, in advocating more lights for the city of Norfolk, says that they will do as much good as twenty policemen at a much less cost.

**Municipal Power Scheme**

Omaha, Neb.—Prominent citizens of Omaha are co-operating with the city officials to develop a municipal power scheme. A committee has been appointed to investigate and

report to the City Council as to the advisability of submitting to a vote at the May election the question of issuing bonds for the enterprise. From surveys of the Platt river already made, it is believed that about 40,000 horsepower can be developed at a cost of about \$5,000,000. There is a provision in the Omaha charter allowing the city to go seventy-five miles from its limits to secure power.

#### City Would Patronize County Plant

Passaic, N. J.—Councilman Joseph Spitz, of Passaic, appeared before the Board of Freeholders of Passaic county and promised Passaic's support of the project to have the county build its own lighting plant. He read a resolution of Council, which recorded the fact that it approved of the county's plans. Mr. Spitz related how the city had given a contract to the Weehawken company, which sold out to the Public Service Corporation. The annual expense for public lighting in the county was estimated at \$150,000. It was figured that \$200,000 would build a suitable plant and the cost of operation would be \$84,000 a year. Freeholder Drukker said that, whereas in 1902 there were 815 municipal lighting plants in the county, there are now 1,055. A bill will be prepared for consideration of the Legislature to provide for the county plant.

#### Powerful Lights for City Hall Court

Philadelphia, Pa.—Chief McLaughlin took his first experimental step in carrying out the plan for the permanent adornment of the court yard by turning on the current one evening for the four giant 2,000-candle power lights placed on a pole erected in the centre of the City Hall court yard. After adjusting the lights to a height that gave the best results, Chief McLaughlin announced that the new arrangement gave better illumination than the nineteen arc lights heretofore in use, and with 50 per cent. less power. It has been suggested that the court yard be improved as a park and that the pole be replaced with a handsome fountain surmounted with the lights.

#### Winnipeg Buys More Utilities

Winnipeg, Man., Can.—Arrangements have been completed for the purchase by the city of the entire holdings of the Winnipeg Electric Company, estimated to be worth \$15,000,000, the city buying all shares at closing prices in Toronto. The company also has a franchise for supplying gas and does a large business in the city without competition. The street railway system also has a franchise preventing any one else from running cars. All this passes into the hands of the city, which already owns its own water works, stone quarries and asphalt plant, while the provincial government owns the telephone system.

#### FIRE AND POLICE

##### Building Operations Obstruct Fire Protection

Chardon, O.—Owing to the demolition of the Town Hall, which also contained quarters for the Fire Department, the town is now very poorly protected. The apparatus is housed in a livery stable, and, in case of fire, can only be secured with difficulty.

##### New York Schools in Poor Condition

New York, N. Y.—C. B. J. Snyder, Superintendent of School Buildings, has reported to the Board of Education the result of his inspection of public schools as regards the safety of the children in case of fire. He said there are 429 schools of the 511 schools in the city that do not afford proper protection. He declared that only those buildings whose walls, floors, partitions and stairways were constructed of fireproof or incombustible material could be considered as affording proper protection against fire. Brooklyn has 164 schools not affording sufficient safety from fire; Manhattan, 112; Queens, 90; Richmond, 40, and the Bronx, 23.

#### Ohio's Annual Fire Losses

Columbus, O.—State Fire Marshal D. S. Creamer has issued a bulletin stating that the annual fire loss of Ohio is \$7,000,000, nearly all of which is preventable. In the last eight years the amount at risk has nearly doubled, and the loss has fallen 36 1-2 per cent. This reduction, in proportion of loss, is credited to increased efficiency of fire departments, better water works, scientific examinations of large risks by inspection bureaus, improved building codes, the introduction of natural gas, and the efficiency of the Fire Marshal's department. In Ohio 53 per cent. of the loss is covered by insurance, although insurance men estimate that from 75 to 80 per cent. of property in the United States is covered by insurance. Mr. Creamer believes that the commonly accepted figure of \$215,000,000 loss for 1907, compiled from newspaper reports, is in reality one-third larger. For each dollar paid in insurance another is spent in gathering and paying it over. The annual per capita cost of maintaining Fire Departments is \$1.25, so that the actual loss due to fire and fear of fire is \$300,000,000—all due to carelessness and neglect of building regulations. The fire loss in Ohio is \$1.57 per capita; the average in States having no Fire Marshal is \$2.47 per capita.

#### Dallas Establishes Identification Bureau

Dallas, Tex.—Dallas detectives are being instructed in the use of the Bertillon and Henry finger-print system of identifications, and the methods of indexing and filing the records by Sergeant Harry L. Stege of the Kansas City Police Department. Two men will be required in the Henry system, one to hold the fingers of the subject and the other to keep the paper steady. A separate room in the basement of the City Hall will be given over to the use of the Identification Bureau.

#### Policeman Invents Rubber Club

Denver, Col.—Patrolman J. T. Gannon has invented a club which he thinks will subdue but not harm the unruly. The new club is made of flexible rubber, loaded with sand and shot. Being made in one piece, it is durable and its flexibility gives ease in carrying.

#### Automobile for Motive Power

Edgewood, R. I.—The Edgewood Volunteer Fire Company is considering the purchase of a 16-horsepower automobile to draw the apparatus. The automobile as motive power is not an untried proposition in Cranston, for the Pawtuxet company, with its hose carts and ladder truck, has often been taken in tow by a touring car. At times the difficulty in negotiating sharp corners has been pronounced in its effects on the people in the last truck in the line.

#### Harrisburg Strengthens Fire Apparatus

Harrisburg, Pa.—Harrisburg will add a new truck, new fire engine, three combination chemical and hose wagons and 2,500 feet of hose to its equipment this year. Last year a new second-size engine was bought. It is proposed to buy another late this year. The appropriation ordinance contains an item for an 85-foot truck and two wagons will be bought within sixty days, a third is already contracted for.

#### Calls Schools Fire Traps

Philadelphia, Pa.—About seventy-five of the city public schools are declared defective, and in need of immediate attention, according to the report of the Bureau of Building Inspection, which Inspector Clay turned over to the Property Committee of the Board of Education. Three schools should be closed until the fire escapes are repaired and other defects remedied. Exits in twenty-three of the buildings, according to the inspectors, open inward. Many of the schools lack the necessary number of fire escapes. Some have none at all. In several instances stairways are declared insecure.

**Mayor Acts as Police Chief**

Paducah, Ky.—In the absence of Chief of Police Collins, on account of illness, Mayor James P. Smith led a raid on saloons and gambling houses. Information had been gained against the places by Pinkerton men, who were secretly employed by the Mayor, and their presence in town was not even suspected until after the evidence was secured.

**New Legislation for Baltimore**

Baltimore, Md.—Although of the city bills introduced in the Legislature just ending some of the most important failed, notably those permitting a tax on easements acquired by public service corporations and creating a Public Service Commission, the majority have passed. The new high license bill is a source of satisfaction to the public generally, as well as a saving alternative to the liquor interests—prohibition being much favored. For the first year after the passage of the bill clubs, wholesale dealers, saloons, groceries and hotels will be charged \$500. For the second year clubs, hotels, wholesale dealers and saloons will pay \$750. The annex bill provides that property surrounded on all sides by paved streets and supplied with water and gas shall be taxed at the city rate. Property abutting on a paved street is taxed two-thirds and unimproved property is taxed at the rate of 65 cents. Other city measures passed were: Relating to the Lazaretto garbage-reduction plant; police matron bill; park extension loan; Annex loan; relating to electric and other conduits; increasing fine for impure-milk violations; paving loan; providing for maintenance of public libraries; extending jurisdiction of the Park Commissioners to the sidewalks about Harlem Park; dock loan; providing for supervision of distribution of poles in Baltimore city; giving Harbor Board additional power and supervision over the docks, wharves and navigable waters adjacent to Baltimore.

**GOVERNMENT AND FINANCE****Finances of Galveston Commission**

Galveston, Tex.—I. H. Kempner, Commissioner of Finance and Revenues, in submitting the annual budget, states that it provides only for the current expense of the city. If the work of construction of water mains, paving, grading and filling are to go on, the taxpayers must vote for an issue of bonds. The estimated expense and revenue are:

EXPENSES		ESTIMATED REVENUES	
Water works .....	\$38,300	Rolls of 1905 and prior, 10 per cent. net.....	\$14,700
Improvement account ..	66,000	Rolls of 1906, say 33 1/3 per cent. ....	13,100
Expenses for Alta Loma station .....	10,300	Rolls of 1907, 50 per cent., of which 93 per cent. to general fund. ....	32,500
Sewer Department .....	8,800	Rolls of 1908, based on assessment amounting to \$26,500,000 .....	135,000
Fire Department .....	78,200	Occupation taxes .....	19,000
Police Department .....	47,740	Water and sewer revenues .....	146,500
Cemeteries .....	1,730	John Sealy hospital.....	7,500
Health Department .....	43,750	Cemeteries .....	1,000
Engineer's Department..	125,220	Fines, costs, pound fees, etc. ....	10,000
Electric Light Department .....	26,600	Interest from taxes and from deposits .....	15,000
Public property and contingencies .....	4,500	Revenue from Galveston Wharf Company .....	37,000
Sealy hospital department .....	38,950	Cash on hand.....	110,000
Salaries .....	23,570		
Sundry contingencies....	27,660		
Total.....	\$541,300	Total.....	\$541,300

**Would Unite Two Cities**

Portsmouth, Va.—A movement is on foot among the members of an association of tidewater business men for the consolidation of the cities of Portsmouth and Norfolk. United, the cities would make a municipality of 125,000 population.

**Registered Preferred to Coupon Bonds**

Jersey City, N. J.—In the basement of the City Hall \$748,000 in Jersey City bonds were recently burned. This was not on account of a reduction of the debt. The destroyed bonds were coupon bonds which had been exchanged for registered bonds, a privilege given after purchase.

**How to Eliminate a Floating Debt**

Dayton, O.—A floating debt of \$100,000 has been annoying the Board of Public Service for some time, making it necessary to consider that amount as a loan to be paid from future tax collections. It is now proposed to wipe this debt out either by increasing the tax levy sufficiently or by a bond issue.

**REFUSE COLLECTION AND DISPOSAL****Garbage to Go by Rail**

Bridgeport, Conn.—Before hot weather arrives the plant of the Bridgeport By-Products Company will be removed from the city and will be in operation in some neighboring town. It has been decided to abandon the plan of transmitting the garbage outside of Bridgeport by boats and tank cars will be used exclusively. This will overcome the difficulty that would be created in the winter when the harbor might be frozen. The cost of a loading platform will be less than that of a bulkhead dock, which the city was to have built.

**Ash and Garbage Collection Extended**

Lockport, N. Y.—The garbage collection system has been in operation a year, the ashes and garbage being collected on all streets. Learning that the Committee on Streets contemplated a reduction in the appropriation, which would limit the collection of ashes within the fire limits only, as previously, numerous protests were sent to the Council. Accordingly, it was decided to raise the fund so as to provide for the collection of ashes and garbage on all streets, and a bill was sent to the Legislature to permit the change.

**Unite on Plan to Clean Streets**

New York, N. Y.—Commissioners Crowell, Darlington and Bingham of the Street Cleaning, Health and Police Departments, respectively, have agreed upon a program to keep the streets clean and will start a campaign of education so that citizens may help. The police will see that the new regulations of the Street Cleaning Department are enforced and the health officers will see that sanitary regulations that assist in keeping the streets clean are enforced, such as the proper separation of garbage from other refuse. The aid of settlement workers, as well as members of civic societies, has been enlisted to educate the people in carrying out Commissioner Crowell's plans. Cast-iron cans, painted red and green, have been distributed throughout the city as public trash baskets. If the appropriation of \$500,000 for flushing machine work is secured, as is expected, \$400,000 of it will go to contractors and the balance for sweepers to accompany the flushers at night to clean the gutters.

**Determined to Lay Dust**

Orange, N. J.—Council has passed a resolution authorizing the Street Committee to proceed to the consideration of some method of keeping down the dust on the principal streets. Councilman Shaw said that the matter had already been taken up by the committee and that arrangements had practically been concluded providing for the application of a dust allayer along Main street.

**Biggest Day's Work of Street Cleaning**

Utica, N. Y.—Contractor Harry M. Roberts inaugurated the work of street cleaning by putting a force of 130 men and 40 teams at work. This is the largest force ever engaged in the work in Utica. The men and teams were assigned to form separate gangs, each with a definite section of the city to clean.

**Waco Scrubs Town**

Waco, Tex.—In accordance with a recent proclamation issued by Mayor James B. Baker, March 18 was observed as clean-up day by the citizens. Broom brigades were noticeable all over the city, and premises received a thorough and elaborate overhauling.

### PARKS AND OUTDOOR ART

#### Muhlenberg College Grounds for Park

Allentown, Pa.—An ordinance for the purchase of the old Muhlenberg College site at Fourth and Walnut streets for public park purposes has been passed. The cost was \$40,000. It will be beautified.

#### Buttons for Playgrounds

East St. Louis, Ill.—Over three thousand public playground buttons have been sold and the demand is still good.

#### Improvements Recommended for Gadsden

Gadsden, Ala.—The City Beautiful Club has received a letter from Howard Evarts Weed, Landscape Architect, containing suggestions regarding the improvement of Gadsden. He advises the formation of a Park Commission and the employment of a forester or gardener. The city has many fine trees, but some of them are so placed as to prevent the construction of cement walks. These, he recommends, should be removed and new trees set out midway between the sidewalks and the curb. The trees should be not less than 2 1-2 inches in diameter, and, if set properly in a pit filled with top soil, would look as well as the old trees in ten years. Forrest Park, situated on the river front, only two blocks from the postoffice, should be provided with boat houses, playground apparatus, and, most important of all, bath houses. Land for a larger Riverside Park should be acquired and held for development at a later period.

#### Property Owners Help Acquire Right of Way

Indianapolis, Ind.—In order to hasten the construction of the boulevard along the north bank of Fall Creek from Northwestern to Capitol avenues, the interested property owners have formed a committee for the purpose of assisting the Park Board in acquiring the rights of way, particularly from small property owners. Although this boulevard is only a part of a large plan to be worked out by George E. Reisler, the new city landscape Architect, it can be constructed without waiting for the elaboration of the plans, and, in fact, it is the only part of the system that can be done at once. The need of work for the unemployed is given as an important reason for starting work at once.

#### Gift of \$5,000 for Park Improvement

Nashua, N. H.—A gift of \$5,000 to the Park Commission from Judge E. Cotton, a manufacturer, for the purpose of improving Greely Farm Park, has been accepted. The present was made on condition that the city appropriate an equal amount for the same purpose.

#### Lights and Band Concerts

Pawtucket, R. I.—Last year the idea of having band concerts in the park was given up because the park was very poorly lighted. Taking advantage of a contract which the city has made with the Welsbach company for supplying the place of some 200 oil lights with mantle gas lamps, the Park Commission has secured 40 incandescent lights for Slater Park. There is no longer any objection to the band concerts.

#### Want Shade Trees

Washington, D. C.—It is the custom this time each year for the District Superintendent of Parks to commence tree planting, and it is estimated that within the next three months he will plant between five and six hundred young trees throughout the city. Some will take the place of old trees removed during the winter. Last year more than 2,500 trees were set out and 1,111 old trees were removed. This year it is anticipated that fully 2,000 new trees will be placed in position. The Commissioners will this year assist

in promoting the movement to create more artistic and better kept lawns in front of private dwellings.

#### Park in Georgetown Approved

Washington, D. C.—With a recommendation that a few minor changes be made in its construction, the Commissioners have approved the bill recently introduced in the House providing for an appropriation of \$150,000 for the establishment of a public park in Georgetown, near Lovers' Lane. The bill referred to proposes to place the park on the Montrose tract of land, north of R street and east of Lovers' Lane, on Georgetown Heights. This tract contains sixteen acres.

### RAPID TRANSIT

#### Electric Freight Trains Prohibited

Michigan City, Ind.—Before passing an ordinance granting to the Chicago, Lake Shore and South Bend Railway Company a new franchise, a clause was amended which would have permitted the transaction of "such freight business as is usually carried by interurban street railways." Fearing that at some future time it may be customary to run freight trains of considerable length on interurban roads and rushing to prohibit or regulate such business, the proviso was inserted stating that it is expressly understood and agreed that the operation of freight traffic should be such as to meet the approval of Council.

#### Public Service Commission Recommends Legislation

New York, N. Y.—The Public Service Commission, in a report to the Legislature on the relation the city's debt limit bears to the development of the city's rapid transit facilities, states that the debt margin question always has interfered with and delayed the construction of new transit lines. The present subway was authorized as long ago as 1891, but for various causes, the chief of which was the debt barrier, the work could not be begun until ten years afterward. The Commission urges that it was not the spirit of the legislation for the protection of taxpayers and holders of corporate bonds that expenditures for self-sustaining improvements should be included in the public debt and that therefore stock issued for new transit lines should not be included in the limited debt of this city. The Commission recommends to the Legislature the passage of an amendment to the constitution eliminating from consideration in regard to the debt limit all bonds already issued for the purposes of subway construction so long as the revenue produced by the subways built shall be sufficient to pay the interest on the bonds and provide a sinking fund for their redemption.

### MISCELLANEOUS

#### Toledo Potato Patches

Toledo, O.—Graff M. Acklin has offered the city the use of a tract of thirty-two acres of land to be subdivided into lots and cultivated by the needy and industrious. Possibly the first plowing of the land will be done by the city. Director Jackson, of the Board of Public Service, has several lots in East Toledo which he has assigned to deserving families, who cultivate them and raise all the vegetables they require for the winter.

#### Flower Beds Cause Sickness

Washington, D. C.—Engineer Commissioner Jay J. Morrow has recommended that the Board of Education be notified of trouble which has arisen in the school buildings owing to the maintenance of flower beds along the walls and that the Board be requested to have this practice discontinued. Henry B. Davis, Inspector of Plumbing, in a recent report to the Commissioners, says that these flower beds are the main cause of damp basements and unhealthful conditions in many of the school buildings.

## LEGAL NEWS

## A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

## CHANGE OF STREET GRADE

**People ex rel. vs. Stillings, Chairman, et al.**—The Laws of 1887 authorized the Department of Public Parks of New York City to change the grade of any street in the Twenty-fourth Ward, and Laws 1893, as amended by Laws 1894 and Laws 1905, provided for the appointment of commissioners to ascertain damages occasioned by changes of grade under Laws 1887. Held, that where a formal resolution of the Park Board changing the grade of streets in the Twenty-fourth Ward and all proceedings thereunder expressed on their face that they were taken in compliance with Chapter 721, the fact that the President of the Board, in his certificate to the map, showing the change, filed by the Board, stated that the improvement was to be made under Laws 1887, did not render the change one other than a change under Chapter 721, and hence the commissioners appointed under the act of 1893 had jurisdiction to ascertain damages.—New York Supreme Court, Appellate Division.

## POLICE TRIAL—INSOLENCE

**People ex rel. Berlin vs. Bingham, Police Commissioner.**—A police officer, who, when on trial before the Deputy Police Commissioner, spoke to him in an insolent manner, challenging him to remove him, was guilty of conduct unbecoming an officer, and warranting his dismissal from the force.—New York Supreme Court, Appellate Division.

## POLICE PROMOTION—HEROISM

**People ex. rel. Burns vs. Baker et al.**—A policeman, promoted from patrolman to roundsman for an act of heroism, is not entitled, on a Civil Service examination, for further promotion, to credit for such act; New York City Charter, Laws of 1901, providing that promotions in the police force shall be made on the basis of seniority, meritorious police service, and superior capacity, as shown by competitive examination, and that "individual acts of personal bravery may be treated as an element of meritorious service in such examination, the relative rating therefore to be fixed by the Municipal Civil Service Commission," not being mandatory that the competitor shall be given a rating for his acts of bravery in every successive grade in which he enters a competitive examination for promotion, without regard to whether they were performed in the grade from which he seeks a promotion, and the commission having a rule confining rating for service to service in the grade from which promotion is sought.—New York Supreme Court, Appellate Division.

## CONTRACTOR'S SURETY BOND—EXECUTION

**People, to Use of Bartlett Co., vs. Carroll et al.**—In an action on a bond purporting on its face to be made by T. & Co. as principals and defendants as sureties, and which was executed only by defendants, a complaint in which it is not averred that the bond was delivered by the sureties with knowledge that the principals had not signed, or that they had waived such signing, but which does aver that the bond was delivered by the defendants, will be good on demurrer; the delivery of the bond by defendants while unsigned by the principals being a waiver of the principals' signature.—Supreme Court of Michigan.

## ILLEGAL TAX—REMEDY

**A. H. Strange Co. vs. City of Merrill et al.**—An action in equity will not lie to restrain a municipal treasurer from collecting an illegal personal property tax. The proper remedy for relief against an illegal personal property tax is to pay the same under protest pursuant to Section 1164, Statutes 1898, or upon duress of personal property, and then sue at law to recover back the money.—Supreme Court of Wisconsin.

## IMPROVEMENT ASSESSMENT—COLLECTION

**Williams vs. Eau Claire County.**—The sale of lots for delinquent taxes and for a special assessment for laying a sidewalk, in which the certificate recited that the amount was for taxes, interest and charges for the year 1903, is illegal for the addition of the assessment to the general tax, and a purchaser may recover the amount paid with interest under the express provisions of the Statute of 1898.—Supreme Court of Wisconsin.

## APPROPRIATION FOR SCHOOL HOUSE

**Town Council of Montclair vs. Baxter, State Superintendent.**—Under Section 76 of the school law, when the Board of School Estimate have fixed and determined the amount necessary for the purchase of land and erection of a schoolhouse, it is mandatory upon the body having the power to make appropriations of money raised by tax, to cause the amount to be raised by tax, or to borrow the same, and secure its repayment by the issue of bonds. When the body having power to make appropriations of money raised by tax fails to provide for the amount fixed and determined by the Board of School Estimate, and a controversy has arisen under the school laws, the remedies by appeal to the State Superintendent of Public Instruction and the State Board of Education must be exhausted before recourse is had to the courts.—Supreme Court of New Jersey.

**Board of Education of Montclair vs. Town Council of Montclair.**—A resolution of a Board of School Estimate fixing and determining the amount of money necessary for the erection of a schoolhouse at the sum of \$175,000, "on condition that a school building containing twenty units shall be erected," is not such a determination as is required by Section 76 of the school law of 1903.—Supreme Court of New Jersey.

## STREET OPENING—INJUNCTION BY ALDERMAN

**Trotter vs. Town of Franklin.**—An Alderman, who cast the only negative vote at a meeting of the Board on the passage of a resolution extending a certain street and closing a by-street, and who had no property on the extended street or the discontinued by-street, was not entitled, though a taxpayer, to enjoin the execution of the resolution on the ground of the expense to be incurred, and that it was not necessary, since the determination of such question was for the town authorities, and not for the courts.—Supreme Court of North Carolina.

## GAS COMPANY—UNREASONABLE PENALTY

**Consolidated Gas Co. vs. City of New York.**—Complainant having followed the universal custom of American corporations, sanctioned by law, of capitalizing its franchises on its organization by issuing stock in excess of its actual investment in tangible property, and having since then earned fair dividends on all its stock, the amount of such excess stock may fairly be taken as the value of its franchises at the time of issuance, and where its business has largely increased such value may be assumed to have increased since that time in proportion to the increase in the value of its tangible property. The provision of such statutes subjecting any gas company furnishing or selling gas in the City of New York to a penalty of \$1,000 for every violation of their provisions respecting equipment, pressure, or rates of charge therein fixed is extravagant and unreasonable in its severity, and renders such statutes unconstitutional and void as a denial to such companies of the equal protection of the laws.—United States Circuit Court.

## SALOON LIMITS

**Williams vs. State.**—The Dallas City Charter of 1907 prescribes limits within which no saloon shall be maintained, and provides that the Board of Commissioners shall never have authority to authorize the establishment of saloons in Oak Cliff, and that in Fair Park a license may be obtained with the consent of the authorities in control of the park. Held, that the charter provision is constitutional, whether the court views the exemption of Oak Cliff from the provisions of the saloon law by reason of the fact that it is a local option district, or whether the court views it as additional territory where saloons shall not be permitted.—Court of Criminal Appeals of Texas.

## ORDINANCE—PROOF OF PASSAGE

**La Fitte vs. City of Ft. Collins.**—In an action for violation of a city ordinance, the original record of the meeting of the council at which the ordinance was passed, produced by the City Clerk, and showing that the mayor and seven of the eight Aldermen of the city were present at the meeting, and that on its final passage all the Aldermen present voted aye and that the mayor declared it adopted, is competent to show the passage of the ordinance, and the files of a newspaper, produced by the editor, showing that the ordinance was properly published, are competent to prove its publication; Mills' Annual Statutes providing that the book of ordinances shall be *prima facie* evidence that the ordinances contained therein have been published, not making such book the sole means of proving publication.—Supreme Court of Colorado.

**SUFFICIENCY OF ENGINEER'S REPORT ON SEWER.**

**Leibole et al. vs. Traster.**—The proceedings required by Acts 1901, as to the survey and report of the Engineer to the Town Board of a proposed sewer to be constructed by an incorporated town, are jurisdictional, and unless complied with all subsequent action by the Board in relation thereto is void. Acts 1901, authorizing incorporated towns to construct sewers provides that the Engineer shall make a survey of the proposed sewer and report to the Board an accurate description of the beginning, route, terminus, and fall of the proposed sewer, and for detailed specifications, plans, and profile for the same, the kind of material to be used and the size of the sewer, an estimate of the cost of the construction, a description of the district which will be benefited so specifically that property owners may be informed whether or not property owned by them will be affected, and a description of any lands which will probably be damaged, with the name of owner of such lands, and the probable damage. Held, that the construction of a sewer is unauthorized, when it is based on the engineer's report merely of plats and profiles showing the termini of the proposed sewer and the streets in which it is to be constructed. The construction or use of a sewer by an incorporated town without having complied with Acts 1901, is such a trespass as entitles an injured landowner to injunctive relief.—Appellate Court of Indiana.

**MUNICIPAL OFFICERS—ELECTIONS**

**State ex rel. Doolittle vs. Hays.**—The Code of 1906 provides for general municipal elections on the second Tuesday in December, 1906, and every two years thereafter, for all elective municipal officers, and that the officers-elect shall qualify and enter upon the discharge of their duties on the first Monday of January after such election, and shall hold their offices for two years, and until their successors are duly elected and qualified. Section 3436 provides that in case of vacancy in any of such elective offices, the unexpired term of which shall not exceed six months, the vacancies shall be filled by appointment by the Mayor and Aldermen, and if the unexpired term exceeds six months a general election shall be held to fill such vacancy, and, further, that if any officer-elect shall fail to qualify, an election to fill the vacancy so created shall be held in like manner. Held, that the election of a person to one of the elective offices not qualified to hold such office had the same effect as if there had been no election, and caused the old incumbent to hold over until the next general election, and hence there was no "officer-elect" who failed to qualify, and no "vacancy" to be filled within the statute, and an election ordered for that purpose was a nullity.—Supreme Court of Mississippi.

**PROHIBITION OF POOLROOMS**

**Crittenden vs. Town of Booneville.**—The operation of pool and billiard tables, not being wrong *per se*, and also being legalized by law, neither Code 1906, Section 3893, declaring that the payment of a privilege tax shall not legalize any business, etc., or the operation thereof, in violation of any statute or municipal ordinance, nor Section 3340, giving a municipality power to regulate and suppress billiard tables, pool rooms, etc., gives a municipality power to prohibit the same, unless in the exercise of its power to suppress a nuisance.—Supreme Court of Mississippi.

**SPECIAL ASSESSMENTS—IRREGULARITIES**

**Barnes et al. vs. City of Parsons et al.**—The power given to cities of the second class to grade streets, avenues, and alleys, and pay therefor by a general tax on all taxable property within the city, and the power to construct paving, curbing, and guttering by resolution, as provided in General Statutes 1901, are separate and independent of each other, and a special assessment levied against abutting property owners to pay for paving, curbing, and guttering, constructed in pursuance to such a resolution, will not be enjoined on account of any irregularity in the action of the City Council in making the grade upon which such paving, curbing, and guttering rests, such irregularity not affecting the amount of such special assessment.—Supreme Court of Kansas.

**DEFECTIVE SIDEWALK—INCONSISTENT FINDINGS**

**Robison vs. White City.**—Where, in an action against a city for damages received on account of a defective sidewalk, the jury return a general verdict for the plaintiff, and with it present special findings of fact which show that the officers of the city did not have notice, either actual or constructive, of the defect, prior to the injury, it is not error for the court to set aside the verdict and enter judgment in favor of the defendant for costs.—Supreme Court of Kansas.

**SUBMISSION OF CHARTER TO POPULAR VOTE**

**Eckerson vs. City of Des Moines et al. (Huston et al., Intervenors).**—Though the Legislature cannot submit to a popular vote of the State the question whether or not an act proposed by it shall become a law, an act designed to affect only local government conditions, which is complete in itself, and requires nothing further to give it validity as a legislative act, may be submitted to the electors of a subdivision of the State, that they may determine on popular vote whether they will adopt its provisions, and hence the provision in Acts Thirty-second General Assembly, providing a form of government for cities of a certain class (Section 2) that the act shall not become effective in any city except on affirmative vote of the electors thereof, does not constitute an attempt to delegate legislative power, in violation of Constitution, Article 3, dividing the powers of government into legislative, executive and judicial departments, and providing that no person charged with the exercise of powers belonging to one department shall exercise functions pertaining to the others.—Supreme Court of Iowa.

**State ex rel. Tolle vs. Shufford et al.**—A private person cannot use the name of the State in an action of quo warranto for the disorganization of an incorporated city, when the purpose of the action is to withdraw the property of such person from municipal taxation.—Supreme Court of Kansas.

**ELECTION CONTEST—COMPLAINT**

**People vs. McClellan et al.**—In quo warranto to try title to an office in a city divided into nearly 2,000 election districts, the complaint alleging every kind of possible fraud and mistake to have been committed in each and every of these districts, was insufficient, and presented a proper case for a bill of particulars apprising defendant as to what particular districts it was expected to show that fraud or error was perpetrated, and the nature of the fraud or error claimed to have occurred in each district. In quo warranto to try title to an office, while plaintiff should specify the districts in which it is claimed that frauds and irregularities occurred and should be limited in his proof to the districts so specified, he should not be required in advance to state what will be disclosed upon a scrutiny of the ballots, as to the actual state of the votes in each district. In quo warranto to try title to an office, a paragraph in the complaint alleging that men were permitted to vote for defendant who had not registered, that men were permitted to vote and did vote more than once for defendant, said votes being counted as legal votes for him and so included in the returns, without giving any particulars, was insufficient, and, on plaintiff's failure to furnish a bill of particulars as required by an order of court, he should be precluded from giving evidence relative thereto.—Supreme Court, Appellate Division.

**FAILURE TO GUARD EXCAVATION**

**Rock vs. American Construction Company et al.**—As a municipal corporation would itself be liable to a citizen for injury sustained by reason of its reducing its sidewalk to a dangerous condition, it is evident that the privilege granted by it to a public utility company of making excavations therein cannot authorize such company to leave the excavations so made unguarded and to dispense with all precautions, whereby those who are rightfully using the sidewalk may be warned of their existence. Nor can the company in such case escape liability on the plea that an excavation, made under the authority conferred on it and for its account and benefit, has been made by an independent contractor. A gardener with poor eyes (but who cares for himself and earns his own livelihood), and with a basket of vegetables on his head, is not particularly well situated to discover a hole in the sidewalk, but the sidewalks of the city are intended for such as he, as well as those with good eyes and who carry no baskets, and he has the right to assume, within reasonable limits, that if they have been made unsafe, those who made them so will warn him of the fact, or protect him from the danger.—Supreme Court of Louisiana.

**GENERAL ROAD FUND**

**Corporation of Elizabeth City vs. Commissioners of Pasquotank County.**—There is no repugnancy between Acts 1905, by which Elizabeth City is given two-thirds of the road taxes collected in the township of the same name, and Acts 1907, amending such provision so as to make it provide that all moneys raised in the county shall constitute a general fund for the common good of the roads of the county and the streets of Elizabeth City; the act as amended being operative prospectively only.—Supreme Court of North Carolina.

## MUNICIPAL APPLIANCES

## Granitoid Concrete Blocked Pavement

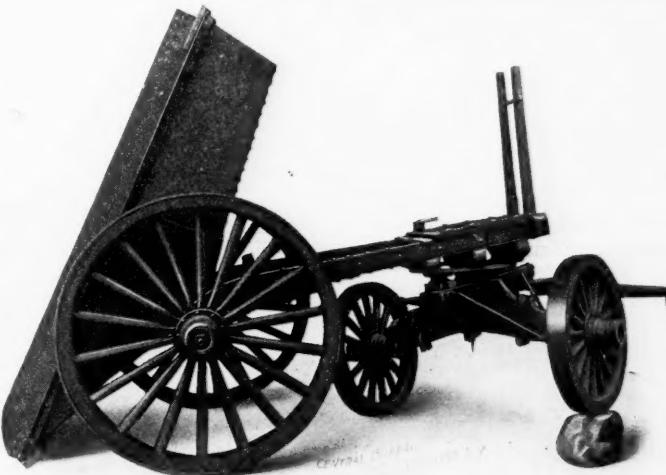
THE use of a special Portland cement concrete street pavement is being advocated by Rudolph S. Blome Company, Bank floor, Unity Building, Chicago. The accompanying illustration shows the surface finish of the product, in general effect very similar to brick, although the pavement is perhaps more truly monolithic than any other, for it is laid practically at one time, with no non-adhering horizontal layers. Besides giving a good foothold on account of its blocked surface, the top material consists of special crushed granite mixture, which, when completed, leaves the pavement smooth so far as wagon wheels are concerned, but rough enough to give foothold to horses. These two features, finely blocked surface and coarse finishing material, are designed to do away with the objections hitherto found to the use of ordinary sidewalk construction in roadways. The selection of this pavement by the United States War Department for the approach to the new highway bridge over the Potowmac River, at Washington, D. C., is evidence that competent army engineers believe in its success. The manufacturers claim, that, in view of the experiments they have been conducting during the past ten years, the conclusion is justified that the pavement will stand the heaviest kind of trucking. The trouble from expansion, which occurs even in sidewalk work, is corrected by the liberal use of expansion joints, provided at regular intervals, as well as a joint between the pavement and the curb filled with a composition. The manufacturers also claim special merit on account of the accuracy with which a patch may be made to conform with the level of the adjoining pavement. The neatness with which the material can be laid commends its use in street railroad tracks—the most trying situation for any paving material. As there is no settlement during the hardening process, or under traffic, there is no reason why this pavement should not be laid perfectly flush with the rail, where, if the rail does not move, no wagon wheel can get a chance to ravel it away. A point raised in regard to municipal economy is not unworthy of consideration. A very large percentage of the cost of labor and material, perhaps larger than in the case of any other paving material, may be spent locally. There are no heavy charges for freight in sections of the country where suitable materials are at hand, as there is in most forms of paving. Comparatively little skilled labor is required, thus making it possible to employ home labor almost exclusively. As pavements go, the Blome Granitoid Concrete Blocked Pavement is not an expensive one, although the use of cheap concrete mixture in its composition would be a vital mistake.



BLOME GRANITOID PAVEMENT

## Senderling Trucks

FOR use where wagons without springs are employed in hauling garbage, as well as for other lines of junk, the wagon shown in the accompanying illustration, which is made by the Senderling Manufacturing Company, 627 West Forty-seventh street, New York City, will be found to be very desirable. This particular wagon, which is only one of a variety made by the company, is patented, has a dead axle, *i.e.*, expensive springs are omitted, an oscillating fifth wheel making travel over rough roads easy and secure, and a steel body which dumps at the rear in a way that avoids shock. The running gear is extremely compact, making it possible for the wagon to be hauled in and out of narrow and difficult places, as it can be turned around in a roadway fifteen feet wide. To be exact, the wheel base is five feet. The body sets low for loading. The point of advantage which it is claimed this truck has in common with all other Senderling trucks, is that the load support shifts its tilting points when dumped, and the wagon-body slides back and drops easily, instead of being lifted up and dropped like a small avalanche. Before dumping, the center of gravity is in front of the axle; in dumping, it is transferred to a point back of the axle. The oscillating fifth wheel relieves all twisting strains in going over rough ground. It also makes it easy for cramping, as the fifth wheel does not have to pry against the load when standing at an angle, when any of the wheels settle into a low spot or mountain obstruction.



STEEL BODY, END DUMPWAGON

The advantage of a steady wagon bed over rough roads is obvious in handling loads of garbage or other materials.

The wagon pole is self-supported, as well as removable. The load is dumped by releasing an automatic self-loading latch, an operation which may be performed even without halting the team; the body returns to its former position automatically or by a quick pull forward by the attendant. The body itself is of steel, reinforced by angle irons, and may be rust proof, if so ordered. The wagons are made in all sizes, on order, and the company will guarantee them when the use is specified. The standard size, shown in the cut, has a capacity of  $1\frac{1}{2}$  to 2 cubic yards of earth or broken stone, when not used on rough block pavements; in the latter instance,  $4\frac{1}{2}$ -inch steel tires should be used. The weight of the standard wagon is 2,000 pounds.

## New Theodolite

A NEW theodolite has been placed on the market by William Ainsworth & Sons, Denver, Col. The instrument has a 10-inch 25-power telescope, with  $1\frac{1}{4}$ -inch objective. The standard is so constructed that a  $2\frac{1}{2}$ -inch compass can be placed in the center, which answers very well for checking courses. The leveling head cannot be cramped in any position, making it unnecessary to lower from screws, as is usually the case. The main telescope tube is finished inside and out by lapping, as is also the outside of the draw tube, to within 0.0001 inch of standard dimensions. The inside of the objective head, the inside and outside of the lens cell and periphery of the objective are all of uniform diameter, true and accurate to within their limits. The makers claim that the small compass answers very well for checking courses, most surveys now being made from a meridian established by solar observation, and for rigidity and permanence of alignment the U standard is far in advance of the usual construction.

## THE WEEK'S CONTRACT NEWS

**Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards**

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

## BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>Street Improvements</b>				
Mississippi	Vicksburg	April 9, noon	Grading and graveling road No. 132	J. D. Laughlin, Chancery Clerk.
Indiana	Kokomo	April 9, 2 P.M.	Constructing 15 miles gravel and macadam roads, various twps	Wm. L. Benson, County Auditor.
Wisconsin	Jefferson	April 9, 2 P.M.	Building cement walks and crossings during 1908.	John J. Spangler, City Clerk.
New York	Brooklyn	April 9, 3 P.M.	Furnishing trap rock and screenings; park and parkways.	Henry Smith, Pres. Park Bd.
New Hampshire	Concord	April 9	Constructing 4,975 ft. trap rock pavement.	A. W. Dean, State Engineer.
New York	New York	April 9	Furn. 12-ton, 3-wheel steam road roller.	Henry Smith, Pres. Park Board.
Washington	Spokane	April 10, 2 P.M.	Grading and macadamizing State Aid Roads, Nos. 8, 9, 11	State Highway Board.
Wisconsin	Janesville	April 10, 2 P.M.	Improving S. Milwaukee St., and two alleys	S. B. Heddles, Chm. St. Assess. Com.
Tennessee	Sweetwater	April 10, 6 P.M.	Grading, macadamizing and laying concrete sidewalks, curb and gutter on 2 miles of streets.	S. T. Jones, Mayor.
Illinois	Mt. Carmel	April 10	Vit. brick paving, 10,000 sq. yds.; sandstone curb, \$20,000	T. B. Wright, Mayor.
Ohio	Vaughnsville	April 10	Scraping 2,000 cu. yds. dirt on L. A. Rower stone pit.	L. A. Rower, Shinaberry Farm.
Utah	Salt Lake City	April 10	Paving First South Street with Utah asphalt.	L. C. Kelsey, City Engineer.
Arkansas	Lake Village	April 11, 4 P.M.	Building 2,375 lin. ft. concrete sidewalk, Dist. No. 5.	W. P. McCortile Sec'y Imp. Dist. No. 5.
Illinois	Decatur	April 11	Improving sundry streets	A. B. Alexander, City Engineer.
New Jersey	Freehold	April 13, 11 A.M.	Bldg. stone road, 4,041 to Sea Bright bridge.	Wm. B. Conover, Dir. Freeholders.
Minnesota	St. Paul	April 13	Improving 4 county roads	Edwin G. Krahmer, County Auditor.
Minnesota	New Brighton	April 13	Gravel screening plant, complete; also port gaso. engine, etc.	Edw. G. Krahmer, Co. Auditor. St. Paul.
Nevada	Reno	April 13	Asphalt paving and grading, 4 streets.	H. E. Christie, City Clerk.
Missouri	St. Charles	April 13	Constructing 4,280 sq. ft. sidewalk, inc. grade, \$960.	H. E. Steinmann, City Engineer.
Virginia	Nat'l Sold. Home	April 14, 1:30 P.M.	Repairing concrete pavement.	John T. Hume, Treas. of Hume.
Illinois	Peoria	April 14, 2 P.M.	Repairing all asphalt streets in city; about 2,000 sq. yds.	E. A. Furry, Com'r Pub. Wks.
New Jersey	Trenton	April 14, 2:30 P.M.	Mat. and labor, grading, road metal, etc., Hope and Stouts rd.	Board of Chosen Freeholders.
California	Oxnard	April 14, 3 P.M.	Grading, etc., Fifth St.	C. J. Elliott, City Clerk.
New Hampshire	Concord	April 14, 5 P.M.	Macadamizing in town of Pembroke.	A. W. Dean, State Engineer.
Missouri	Springfield	April 14	Paving portion of Mill St.	H. Horton, City Engineer.
Maryland	Ellicott City	April 14	Grading and macadamizing 1/2 mile Florence road.	T. Hunt Mayfield, County Clerk.
Texas	Houston	April 14	Paving 3 miles of Westhume road.	J. B. Ashe, County Auditor.
Indiana	Kokomo	April 15, 10 A.M.	Constructing various gravel roads in County.	Wm. L. Benson, County Auditor.
Indiana	Kokomo	April 15, 10 A.M.	Grading, draining, culverts on hwy., bet. Howard & Miami Cos.	Harry Mills, Chm. St. Com'n.
Pennsylvania	Caifornia	April 15, 6:30 P.M.	Grading, curbing and paving sections of 5 streets.	County Commissioners.
Idaho	Wallace	April 15	Constructing St. Joe County road; cost, \$20,000.	Jos. R. Vedder, Village C. erk.
Ohio	Reading	April 15	Furnishing 1,000 cu. yds. 2 1/2-in. stone for streets.	E. W. Hirsch, Sec'y Bd. Pub. Serv.
Ohio	Columbus	April 15	Paving 12 sts., etc., brick, asphalt, etc.	George R. Trask, County Surveyor.
Idaho	Wallace	April 15	Constructing St. Joe County road; cost, \$20,000.	F. M. Sayre County Auditor.
Ohio	Columbus	April 15	Reflooring Russell bridge, new bids.	William Wylie, County Engineer.
Pennsylvania	Washington	April 16, noon	Bldg., imp. county roads, culverts and bridges.	J. W. Stevenson, Com'r Bridges.
New York	New York	April 16	Bldg. rdway, pavement, etc., Blackwell's Island bridge, etc.	Fred. Dreins, County Clerk.
Ohio	Cincinnati	April 17, noon	Improving Miami River road, Whitewater township.	
Wisconsin	Tomah	April 18, 2 P.M.	Constructing 13,473 sq. yds. brick pavement on sand base; 4,450 in ft. concrete curb and gutter; 3,840 ft. plain con. curb.	D. J. Aller, City Clerk.
Indiana	Indianapolis	April 18	Brick, bitulithic, gravel, etc., also walks, etc., 8 sts., etc.	Blaire H. Miller, City Engineer.
Ohio	Ashland	April 20, noon	Grading and curbing W. 8th and Cottage Sts.	E. L. Berry, Engineer.
Washington	Chehalis	April 20	Paving 9 blocks, asphalt, brick, etc., cost \$40,000.	City Clerk.
Manitoba	Winnipeg	April 20	Asphalt paving, Main St., Higgins Ave.	H. N. Ruttan, City Engineer.
New York	Binghamton	April 20	Bldg. unfinished roads, 2 contracts.	Broome County Commissioners.
Indiana	Rushville	April 21	Bldg. crushed stone road, 23,834 ft. long.	Albert L. Winship, Co. Auditor.
Ohio	Logan	April 21	Grading and macadamizing Zanesville road.	Jas. L. Hartin, Co. Auditor.
Wisconsin	Green Bay	April 23	Paving 57,000 sq. yds., 3 sts., cost, \$145,000; also 2 other sts. with macadam on concrete, comb. curb and gutter.	W. W. Reed, City Engineer.
Georgia	Savannah	April 24	Furn. 2,000 sq. yds. No. 1 asphalt block, 5- or 10-year guarantee.	Harry Willport, Dir. Com. Sts.
Massachusetts	Holyoke	April 24	Furn. 8-ton tandem steam road roller.	Oscar C. Ferry, Asst. Clk. B. P. W.
Florida	Bradenton	April 25	Bldg. 6,500 sq. yds. brick; 20,000 macadam; 14,000 sand	E. B. Camp, City Engineer.
Florida	Ft. Dade	April 25	Bldg. brick roads and concrete sidewalks.	Constructing Q. M., U. S. A.
Iowa	Independence	April 27	Repairing block paving, 5,400 yds.; 3,000 ft. curb, First St., inc. intersections; also Washtn. St., same.	Rufus Brewer, City Clerk.
Alabama	Huntsville	May 1	Paving certain sts. with stone, asphalt joints, measuring 18,866 meters; nat. or art. stone on solid pressed material.	R. E. Smith, Mayor.
Salvador, C. A.	San Salvador	May 1		Ernest Schernikow, Consul, Broadway, New York City.
Minnesota	Fork	May 1	Constructing five miles of roads.	J. P. Lein, Township Clerk.
Illinois	Anna	May 1	Constructing 24,785 sq. yds. brick pavement.	C. W. Brown, Jacksonville, C. E. City Clerk.
Virginia	Orange	May 2	Constructing 16 miles macadam road.	Fred. C. Schneider, City Eng'r.
New Jersey	New Brunswick	May 18	Paving 26,000 sq. yds. Throop Ave., with brick.	B. R. Johnston, City Engineer.
Indiana	Crawfordsville	June 8	Paving 5 blocks on College, Water and Walnut Sts.	
<b>Water Supply</b>				
Oklahoma	Oklahoma City	April 10, noon	Extending filter plant, inc. 1,320,000-gal. sedimentation basin and clear well, both rein. concrete; 4,000,000-gal. filtration system; bids separate or as whole.	D. A. Johnston, Supt. Water Bd.
Texas	Shiner	April 10, noon	Erecting steel standpipe, 16 x 100 ft., for W. W. plant.	Louis Trautwein, Mayor.
Massachusetts	Holyoke	April 10, 1:30 P.M.	Furn. c. i. pipe and specials.	James L. Tighe, City Engineer.
Kansas	Quindaro	April 10	Bldg. intake pier for Kansas City, Mo., water works.	E. A. Harper, K. C., Mo., City Eng'r.
South Carolina	Charleston	April 13	Furn. and laying 3,000 ft. 3 and 4-in. c. i. pipe, etc., Calhoun St.; also setting up, etc., fountain.	J. H. Dingle, City Engineer.
Minnesota	St. Paul	April 13	Bldg. steel stand pipe, 10 ft. high, St. Anthony Park.	John Caulfield, Sec'y B. P. W.
Minnesota	Albert Lea	April 13	Laying 727 ft. 8-in., 1,554 ft. 6-in. mains, etc.	Wm. Barneck, City Engineer.
New York	Oswego	April 14, noon	Laying c. i. pipe, etc., for Lake water extension.	F. W. Ormsby, Sec'y Water Dept.
North Carolina	Maxton	April 14, 7:30 P.M.	Installing water works system; also material.	R. M. Williams, Mayor.
Ontario	Palmerston	April 14	Constructing water works system; c. i. water pipes, valves and hydrants; furn. and erecting steel stand pipe.	Galt & Smith, Toronto, Cons. Eng'r's
Wisconsin	Richland Center	April 15, 7 P.M.	Drilling 12-in. well, 700 ft. deep.	W. G. Kirchoffer, Madison, C. E.
Idaho	Caldwell	April 15	Constructing laterals: Upper 14 miles of Kuna high line, except 9 divisions; upper 8 miles Deer Flat north; upper 7 miles Deer Flat low line and upper 9 miles Deer Flat.	J. H. Lowell, Pres. P. B. W. U. A.
Florida	Fort Dade	April 16, 8 P.M.	Constructing six surface wells.	Constructing Q. M.
New York	White Plains	April 17, noon	Install. 20,000,000-gal. triple-expans. dir. act. con. engine.	John Heeney, Sec'y Water Com'rs.
Massachusetts	Holyoke	April 17	Furnishing 8,500 lbs. pig lead.	James L. Tighe, City Engineer.
Wisconsin	Juneau	April 18, 11 A.M.	Constructing brick power-house, furn. 300-gal. deep well triplex pump and 250 h.p. gasoline engine.	W. G. Kirchoffer, Madison, C. E.
Minnesota	Stillwater	April 18, noon	Erecting water tower at new State prison.	State Bd. Control, St. Paul.
Wyoming	Ft. D. A. Russell	April 18, 1:30 A.M.	Extending water system, etc., inc. 7,000 ft. pipe, etc.	Capt. V. K. Hart, Q. M., U. S. A.
Washington	Fort Casey	April 20, 11 A.M.	Drilling 6 saisson wells at Fort.	Ch. Q. M., U. S. A., Vancouver Bks.
Kentucky	Versailles	April 20	Constructing complete system of water works.	The Holmboe Co., Lincoln Bank Bldg., Louisville, Eng'r's-in-Chge

## Water Supply—Continued.

Ohio	Cincinnati	April 21, noon	Furn. c. i. pipe and specials for ext. system, inc. 1,500 ft., 12-in. pipe, etc.; also laying same.	Aug. Herrmann, Pres. W. W. Com'.
Ohio	Toledo	April 22, noon	Furn. 30 and 42-in. c. i. pipe and specials and 5 flanged valves for high-pres. pump sta., Cont. No. 9.	C. Reynold Voit, Sec'y Bd. Pub Serv.
Ohio	Cincinnati	April 22	Furn. c. i. pipe and specials for extension water system.	August Herrmann, Pres. Water Bd.
Wisconsin	Loyal	April 23, 2 P.M.	Bldg. 30,000 gal. steel tank and tower, power house, etc., furn. 300-gal. triplex pump, etc.	J. M. Philpott, Village Clerk.
Ohio	Norwood	April 25, noon	Furn. 100 5-8-in. water meters, etc.	H. D. Armstrong, Clk. B. P. S.
Ohio	Malta	April 28, noon	Constructing pipe system for water works.	Paul R. Murray, N. Phila., C. E.
Delaware	Wilmington	May 4, 1:30 P.M.	Sale of 4 horizontal pumping engines.	Howard B. Griffith, City Engineer.
Iowa	Council Bluffs	May 18, 4 P.M.	Constructing water works plant, embracing power plant complete, settling reservoirs, distributing system and high-pressure reservoir. S. L. Etnyre, City Engineer.	W. F. Sapp, City Clerk.

## Sewerage

Ohio	Coshocton	April 9, noon	Bldg. sanitary sewer in 15th St.; Chestnut to North St.	A. M. Fisher, City Engineer.
New York	Lake Placid	April 9, 1 P.M.	Constructing 2½ miles of pipe sewer.	Ruisseamont Sewerage Com'.
Michigan	Grand Rapids	April 9, 8 P.M.	Bldg. sewer S. Front St., inc. embank., gates, pump con., etc.	S. A. Freshnay, Bd. Pub. Wks.
Mississippi	Canton	April 9, 8 P.M.	Constructing sewer system, inc. 7 miles 6 to 18-in. pipe.	W. G. Kirkpatrick, Jackson, C. E.
Ohio	Toledo	April 9	Furn. material and bldg. sewers Avondale Ave., etc.	Reynold Voit, Sec'y B. P. S.
South Dakota	Huron	April 10, 8 P.M.	Constructing two main lines of sewer.	M. Schoenert, City Clerk.
Iowa	Fort Dodge	April 10	Laying 8-in. tile sewer, 7 blocks, 3d Ave., S.	C. H. Reynolds, City Engineer.
Illinois	West Hammond	April 10	Constructing sewerage system for town.	Wm. B. Ewing, Chicago, C. E.
Virginia	Nat'l Sold. Home	April 14, 1:30 P.M.	Removing old and installing new sewerage pump end.	John T. Hume, Treasurer.
Rhode Island	Woonsocket	April 14, 2 P.M.	Constructing 2,600 ft. 8-in. sanitary sewer, etc.	Frank H. Mills, City Engineer.
North Carolina	Maxton	April 14, 7:30 P.M.	Bldg. Sewer System; also furnishing material on both	R. M. Williams, Mayor.
South Carolina	Yorkville	April 15, 9:30 A.M.	Bldg. 6 miles 8-10-in. sewers, manholes, flush tanks, etc.	Spand Eng. Co., Columbia, Engrs.
New York	Port Slocum	April 15, 10 A.M.	Constructing a sewer system.	Constr. Q. M., U. S. A.
Colorado	Alamosa	April 15, 4 P.M.	Constructing sanitary sewer; also 37,938 sewer bonds.	Geo. A. Willis, City Clerk.
Pennsylvania	California	April 15, 7 P.M.	Large amount of sewering, 30 to 15-in. I. C. pipe.	M. E. Ward, Village Engineer.
Massachusetts	Holyoke	April 17	Labor, constructing sewer in Walnut St.	James L. Tighe, City Engineer.
Wyoming	Pt. D. A. Russell	April 18, 1:30 P.M.	Extending sewer system, etc., inc. 7,000 ft. pipe.	Capt. V. K. Hart, Q. M., U. S. A.
Wisconsin	Oshkosh	April 18	Constructing sewer in Ninth St.	G. H. Randall, City Engineer.
Ohio	Steubenville	April 20, noon	Constructing 26-inch sewer in South St., 6th St. to Ohio River.	H. G. Simpson, Clk., Bd. Pub. Serv.
Dist. of Columbia	Washington	April 20, noon	Constructing pipe sewers.	Jay J. Morrow, Eng'g Com'n.
Ontario	Guelph	April 20, noon	Sewer pipe, 21,000 ft., 24-in.	Davis & Johnston, Berlin, Engrs.
Kentucky	Versailles	April 20	Constructing complete system of sanitary sewers.	Drake C. Naive, Clerk of Council.
Ohio	Zanesville	April 20	Constructing sanitary sewer.	J. P. Hahn, Clerk B. P. S.
New York	Bronxville	April 20	Constructing sewers, grading and paving.	Frank Densmore, Village Clerk.
Pennsylvania	Beaver	April 21	Constructing 8 1/2,000 ft. sewerage system.	Jas. P. Leaf, Rochester, C. E.
California	Oakland	April 22, 11 A.M.	Completing outlet sewer, Grove St.	W. B. Fawcett, Sec'y B. P. W.
Pennsylvania	Philadelphia	April 22	Constructing main sewers, Schedule B.	Geo. H. Webster, Ch. Engr. D. S.
Maryland	Baltimore	April 29, 11 A.M.	Bldg. East Low level interceptor; also superstructure and sub-sewage pumping station, etc.	Peter Leavy, Chm. Sewerage Com'n.
Kentucky	Louisville	April 29, noon	Bldg. Sec. A. S. Outfall sewer, Cont. No. 6, inc. sewer 10' 11" x 10' 7", 2,137 ft. long and outlet structure; exc. 2,137 lin. ft.; concrete 3,624 cu. yds.; rein. steel bars, 235,000 lbs.; piles 4,930 lin. ft.; vit. brick invert lining, 2,390 sq. yds.	J. B. F. Breed, Ch. Engr. Sewer Bd.
Illinois	Anna	May 1	Constructing sanitary sewers, to cost \$20,000.	J. L. Hammond, City Clerk.

## Public Buildings

Minnesota	Alexandria	April 9, noon	Remodeling high school; also heat and vent. plant.	Wm. Elliot & Sons, St. Paul, Arch.
Virginia	Luray	April 9, noon	Bldg. 2 fireproof rooms in Co. Court House, etc.	H. M. Mayes, Chm. Bd. Co. Superv.
Ohio	Mercer	April 9, noon	Erecting school; Howard, Insch & Merriam, Col'bus, Archts.	Dr. W. H. Nuding, Clk. Bd. Ed.
Illinois	Dixon	April 9, 3 P.M.	Constructing U. S. Post Office.	James Knox Taylor, Wash., D. C.
Michigan	Detroit	April 10, 10 A.M.	Plumbing and heating brick police station.	Louis Kamper, Fine Arts Bldg., Arch.
Pennsylvania	Pine Grove	April 10, noon	Constructing an armory building.	State Armory Board, Harrisburg.
Pennsylvania	Williamsport	April 10, noon	Constructing an armory building.	State Armory Board, Harrisburg.
Pennsylvania	Reading	April 10, noon	Constructing an armory building.	James Knox Taylor, Wash., D. C.
Michigan	Jackson	April 10, 3 P.M.	Constructing extension to Post Office.	F. J. Stafford, Dir. School Bd.
Wisconsin	Elmira	April 10, 3 P.M.	Bldg. 2-story brick school; J. Frederickson, Gaylord, Arch.	Parkinson & Dockendorff, Archs.
Ohio	La Crosse	April 10, 6 P.M.	Bldg. brick and stone library, complete.	R. D. McFarland, Chm. Bldg. Com.
Ohio	Conneaut	April 10	Bldg. 2-story and base, 100 x 140 ft., pressed brick, etc., school.	W. H. Lyons, Sec'y Bd. M'g'rs.
California	Stockton	April 10	Heating plant for State Hospital.	Sec. Arm. Bd., Harrisburg.
Pennsylvania	Wilkes-Barre	April 10	Erecting armory building.	J. C. Young, Clk. Bd. Educ. n.
Ohio	Rittman	April 11, noon	Bldg. school; sub dist. No. 5, Milton twp.	J. P. Metz, Sec'y School Bd.
Alabama	Hessamer	April 11, 3 P.M.	Erecting schoolhouse in Benton township.	James Knox Taylor, Wash., D. C.
Michigan	Detroit	April 11	Constructing, complete, U. S. Post Office.	Chas. A. Nicols, Sec'y Police.
South Dakota	Wessington Spgs.	April 11	Plumbing and heating police station.	M. Della Englan, Clk., School Bd.
New York	Onondaga	April 13, 2 P.M.	Bldg. \$22,000 school; J. P. Eisentraub, Sioux City, Arch.	F. X. Wood, Co. Pur. Agt., Syracuse.
Dist. of Columbia	Washington	April 13	Erecting Women's Bldg., at County House.	Capt. H. L. Pettus.
Indiana	Gary	April 13	Army General Hospital.	Edward Jewel, Pres. Bd. Educ'n.
Pennsylvania	Williamsport	April 13	Army, cost \$14,000.	Benj. W. Demming, Sec'y, Harrisb'g.
Ohio	Cincinnati	April 13	Drill Hall, cost \$30,000.	Benj. W. Demming, Sec'y, Harrisb'g.
Ohio	Bryan	April 14, noon	Installing heat and ventilating system; N. Fairm. school.	E. W. Hannaford, Architect.
Michigan	Ironia	April 14, noon	Repairs to Central school building.	Silas Peoples, Clk. Bd. Education.
Nebraska	Grand Island	April 14, noon	Constructing asylum bldg. for State Asylum.	Jos. E. Mills, Detroit, Architect.
Ohio	Columbus	April 14, noon	Erecting hospital bldg. at Soldiers' and Sailors' Home.	Geo. A. Berlinghof, Lincoln, Arch.
Washington	Tacoma	April 14, 3 P.M.	Erecting tuberculosis hosp., Cottage B.	Frank L. Packard, Architect.
Ohio	Mercer	April 14	Constructing, except elevators, Federal Building.	James Knox Taylor, Wash., D. C.
Nebraska	Lincoln	April 14	Erecting \$7,000 school bldg.; Howard, Insch & Merriam, Archs.	W. H. Meding, Clk. School Board
California	San Luis Obispo	April 15, 10 A.M.	Bldg. dormitory, creamery and cottages Cal. Poly. Sch.	Geo. C. Junkin, State Sec'y.
Ohio	Columbus	April 15, noon	Bldg. tuberculosis hospital at Co. Infirmary.	Le Roy B. Smith, Sec'y Bd. Trus.
Wyoming	Ft. D. A. Russell	April 15, 1:30 P.M.	Constructing various buildings at post.	Morton Hayes, Pres. Co. Com'rs.
New York	Ithaca	April 15, 3 P.M.	Constructing, complete, U. S. Post Office.	Capt. V. K. Hart, Q. M., U. S. A.
New York	Albany	April 15, 5 P.M.	Competitive plans for new Prison at Sing Sing; 30 fire-proof bldgs. in groups; 1,400 cells; cost \$2,000,000.	James Knox Taylor, Wash., D. C.
Virginia	Fredericksburg	April 15	Furn. material and erecting school.	Chas. F. Howard, Pres. Pris'ns Com'n.
Kansas	Pittsburg	April 16, 2 P.M.	Heating, vent. system, etc., State Normal School.	S. W. Somerville, Chm. Com Schools.
Indiana	Goshen	April 16	Alterations, etc., County Court House.	John F. Stanton, St. Arch., Topeka.
Michigan	Kalamazoo	April 16	Competitive plans, etc., for new school, etc., cost, \$85,000.	D. O. Batchelor, County Auditor.
North Dakota	Manning	April 16	Court House.	Howard H. Brickhout, Clk. Bd. Ed.
Kansas	Pittsburg	April 16	Heating, ventilating, etc., Manual Training School.	T. Le Roy Evans, Co. St. Auditor.
New York	Ellis Island	April 16	Enlarging laundry.	John F. Stanton, Arch., Topeka.
Virginia	Norfolk	April 16	Officers' Quarters, Navy Yard.	Rob't Watchorn, Com'r Immigrat'n.
Pennsylvania	Ebensburg	April 17	Jail with steel cells.	Col. F. L. Denny.
Ohio	Waynesburg	April 17	Erecting school in Sub-Dist. No. 3, Sandy township.	J. B. Lehman, Clk. Co. Com'rs.
Ohio	Hamilton	April 18, noon	Constructing brick school; Geo. W. Barkman, Arch.	Jas. T. Hewett, Clk., Bd. Educ.
Ohio	Cadiz	April 18, noon	Erecting school bldg. at Buffalo and North Streets.	John A. Keller, Clk. Bd. Educ. n.
Minnesota	Stillwater	April 18	Bldg. new wing, warehouse, etc., State Prison; cost, \$250,000.	John S. Campbell, Pres. Bd. Educ.
Ohio	Youngstown	April 19, noon	Bldg. 4-room add'n to Market St. school; R. F. Thompson, Arch.	P. M. Ringdahl, Chm. S.B.C. St. Paul.
Ohio	Massillon	April 19, noon	City Hall.	W. N. Ashbaugh, Clk. Bd. Educ'n.
Virginia	Nat'l Sold. Home	April 19	Heating and ventilating.	G. G. Paul, Clerk.
Ohio	Cincinnati	April 21, noon	Bldg. Carnegie branch library; whole or separate.	John T. Hume, Treas.
Pennsylvania	Philadelphia	April 21, noon	Bldg. new and finishing bldgs., Homes Hosp. for Insane.	Robt. H. West, Chm. Bldg. Com.
Arizona	Whipple Bar's.	April 21	Plumbing, heating and wiring hospital.	W. T. Marshall, Chm., 1435 Ches. St.
Indiana	Michigan City	April 23, 9 A.M.	Erecting 98,000 Co. Court House; Mahurin & Mahurin, Archs.	Capt. Chas. C. Walcutt, Q. M.
Indiana	Michigan City	April 23	County Superior Court House.	C. H. Miller, La Porte, Co. Aud.
Indiana	Pendleton	April 23	West School Building, steam heating.	County Commons, La Porte.
Wisconsin	Stratford	April 25	Bldg. 2-story high school; 56 x 78 ft., Dist. 2, town Cleveland.	Dr. L. E. Alexander.
Missouri	Macon	April 27, 9 A.M.	Erecting County jail and Sheriff's residence.	Jos. P. Jogerst, Wausau, Arch.
Illinois	Eldorado	April 28, 2 P.M.	Bldg. 2-story brick twp. school; J. W. Gaddis, Vinc., Ind., Arc't.	Nick M. Moody, County Clerk.
Minnesota	Crookston	April 28, 3 P.M.	Constructing, complete, U. S. Post Office.	Jas. A. Watson, Pres. Bd. Educ. n.
South Dakota	Watertown	April 28, 3 P.M.	Constructing, complete, U. S. Post Office.	James Knox Taylor, Wash., D. C.

## Public Buildings—Continued.

Virginia.....	Bedford City.....	April 28.....	Erecting a jail.....	Bd. County Supervisors.
Virginia.....	Fortress Monroe.....	April 30, 10 A.M.....	School buildings at post.....	Capt. E. R. Tilton, Q. M.
Pennsylvania.....	New Castle.....	May 1.....	Erecting 3-story brick and stone high school, 200 x 190 feet, estimated cost, \$250,000.....	W. G. Echles, Architect
Maine.....	Bar Harbor.....	May 4, 3 P.M.....	Constructing, complete, U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Minnesota.....	St. Paul.....	May 5, 3 P.M.....	Completing tower on Federal Building.....	James Knox Taylor, Wash., D. C.
New York.....	New York.....	May 5, 3 P.M.....	Enlarging, extending, etc., U. S. Assay Office.....	James Knox Taylor, Wash., D. C.
Oregon.....	Eugene.....	May 9, 3 P.M.....	Constructing, complete, U. S. Post Office.....	James Knox Taylor, Wash., D. C.
New York.....	New York.....	May 12.....	Remodeling U. S. Army Office.....	James Knox Taylor, Wash., D. C.
Porto Rico.....	San Juan.....	May 15.....	Constructing a military hospital.....	Wm. S. Patten, Q. M., N. Y. City

## Bridges

Ohio.....	Middletown.....	April 9, 10 A.M.....	Bldg. hoist bridge over M. & E. Canal at Titus Ave.; also moving old bridge to Yankee road.....	J. E. Brate, County Auditor.
Mississippi.....	Vicksburg.....	April 9, noon.....	Building wooden bridge on Road 19, near Yokena.....	J. D. Laughlin, Chancery Clerk.
Washington.....	Goldendale.....	April 9, 1 P.M.....	Constructing various bridges in the county.....	A. N. Mac Leod, County Auditor.
Pennsylvania.....	Reading.....	April 10, 10 A.M.....	Bldg. 80-ft. rein. concrete arch bridge, near Barto.....	A. L. Rhoads, County Controller.
South Dakota.....	Fort Meade.....	April 10, 10 A.M.....	Constructing bridges and culverts, etc.....	Capt. L. C. Scherer, Q. M., U. S. A.
Pennsylvania.....	Reading.....	April 10, 10 A.M.....	Reinforced concrete arch bridge.....	A. L. Rhoads, Co. Commissioner.
Missouri.....	Kansas City.....	April 10, 11 A.M.....	Bldg. 18 and 22 1-beam steel bridges: two 3-ft., 6-ft. and 8-ft. stone arch culvert, etc.....	Oscar Koehler, County Surveyor.
Arizona.....	Tucson.....	April 10.....	Five span steel bridge.....	B. L. Hitch, Clk. Bd. Supervisors.
Missouri.....	Memphis.....	April 10.....	Bldg. 44-ft. span steel bridge in Miller Township.....	C. C. Critz, Com'r.
Arkansas.....	Hanburg.....	April 11, noon.....	Erecting several steel bridges.....	J. C. Brown, County Judge.
New Jersey.....	Freehold.....	April 13, 11 A.M.....	Steel bridge, 4,041 ft. long.....	County Commissioners.
Ohio.....	New Philadelphia.....	April 13, 1 P.M.....	Bldg. repairs, etc., 1 steel, 2 concrete bridges.....	A. V. Donahey, County Auditor.
Ohio.....	Newark.....	April 13, 1:30 P.M.....	Bldg. sub-structure of Patton bridge over Lake Fork Con.....	J. N. Wright, County Auditor.
Illinois.....	Hardin.....	April 13.....	Bldg. stone arch bridge over Flanigan branch.....	John Day, Jr., County Clerk.
California.....	Eureka.....	April 14, 10 A.M.....	Bldg. steel highway bridge over Salt river.....	Geo. W. Cousins, Clk. Co. Superv.
Missouri.....	Clinton.....	April 14, 1 P.M.....	Bldg. 140-ft. steel span bridge on tubular piers, 40 ft. high, with 80-ft. approach over Big Tebo Creek, 14 miles south.....	Henry County Commissioners.
New Jersey.....	Trenton.....	April 14.....	Bldg. steel concrete bridge; also a culvert.....	Frank J. Epple, Co. Eng'r.
Illinois.....	Chicago.....	April 15, 11 A.M.....	Labor and material for sub. and superstructure Polk st. bridge, as shown in Proposal advertisements.....	John J. Hanberg, Com. Pub. Wks.
North Dakota.....	Grand Forks.....	April 15.....	Pile trestle for railroad to Pemburg Court Co.....	D. F. Bull, Secretary.
Pennsylvania.....	Washington.....	April 16, noon.....	Constructing bridges, culverts, etc., on imp. Co. roads.....	Wm. Wylie, County Engineer.
California.....	Alhambra.....	April 16, 8 P.M.....	Constructing bridges, culverts and abutments.....	A. A. Clapp, City Clerk.
Ohio.....	Lancaster.....	April 18, noon.....	Steel super, 78 ft. long; also with plans.....	Palmer Howard, Co. Auditor.
Pennsylvania.....	Zanesville.....	April 20, noon.....	Bldg. Buckingham wood truss bridge, 100 ft. span; also sub.....	L. E. Brelsford, Co. Auditor.
Ohio.....	Zanesville.....	April 20.....	Bldg. bridge at Emerald.....	Comm'r Lehigh County.
Illinois.....	Kankakee.....	April 20.....	Erecting bridge at Burnt Mills.....	L. E. Brelsford, County Auditor.
Texas.....	San Antonio.....	April 20.....	Concrete bridge.....	F. H. Holmes, Chairman.
Pennsylvania.....	Philadelphia.....	April 22.....	Steel deck bridge.....	Bryan Callaghan, Mayor.
Ohio.....	Columbus.....	April 24.....	Bridges, Schedule A.....	Geo. H. Webster, Ch. Eng'r.
Ohio.....	Norwood.....	April 25.....	Approaches and plans for two bridges.....	E. M. Sayre, County Auditor.
British Col'b'a.....	Vancouver.....	May 1, noon.....	Superstructure of viaduct.....	H. D. Armstrong, Clk. B. P. S.
Pennsylvania.....	Mauch Chunk.....	May 1, 2 P.M.....	Mfr. and erecting super. 2 bridges over False Creek at Western Ave. and Granville St.; 2,000 tons structural steel.....	Waddell & Harrington, K.C.M. & C.E.
Pennsylvania.....	Smithport.....	May 1.....	Repairing bridges.....	County Clerk.
Mississippi.....	Gulfport.....	May 4.....	Bridge repairs.....	Comm'r's Mc Kean County.
Idaho.....	Rathdrum.....	May 11.....	Constructing \$10,000 bridge over river, near Biloxi.....	Clerk, County Supervisors.
Texas.....	Linton.....	May 12.....	Bldg. bridge over Coeur d'Alene River, near Lane, 140-ft. span, with approaches, over 1,000 ft.; comb. steel and wood or steel.....	County Commissioners.
			Iron fence around court house.....	P. A. Hunter, County Judge.

## Lighting and Electricity

Pennsylvania.....	Bellwood.....	April 9.....	Arc and incandescent lighting.....	J. J. Irvin, Chm. St. Com'rs.
Virginia.....	Edinburg.....	April 11, 7:30 P.M.....	Letting electric light franchise: P. S. Roller, C. E.....	J. D. Lennon, Mayor.
New York.....	New York.....	April 13, 11 A.M.....	Installing electric equipment new Public School No. 17.....	C. B. J. Snyder, Supt. School Bldgs.
Texas.....	Galveston.....	April 13.....	Series arc lamps.....	John H. Munch, Co. Auditor.
Dist' of Col'b'a.....	Washington.....	April 14.....	Conductors, fittings and tubing.....	E. B. Rogers, P'm r-Gen, U. S. N.
Wyoming.....	Ft. D. A. Russell.....	April 15, 1:30 P.M.....	Electric wiring, etc., 2 or more buildings.....	Capt. V. K. Hart, Q. M., U. S. A.
Dist' of Col'b'a.....	Washington.....	April 15, 2 P.M.....	Electrical supplies, surveying instruments, and mis. supplies for various Federal Departments for year end, June 30, 1909.....	Secretary of each Dept.
Minnesota.....	Fergus Falls.....	April 15.....	Hydraulic and electric machinery for power house.....	G. H. Gard, City Clerk.
Indiana.....	Goshen.....	April 16, 10 A.M.....	Gas and electric fixtures, etc., dome Court House.....	D. O. Batchelor, County Auditor.
Kansas.....	Pittsburg.....	April 16, 2 P.M.....	Gas piping, elec. wiring, etc., State Normal School.....	Jos. H. Hill, Emporia, Pres. Regents.
Wisconsin.....	Juneau.....	April 18.....	Power house, triplex pump and 20 h.p. gasoline engine.....	F. L. O'Neil, City Clerk.
Indiana.....	Ligonier.....	April 21.....	Lighting plant, consisting of engine, 100 k.w. generator, switch-board, pole line, wiring, 40 arc lamps.....	R. E. Jeannerst, City Clerk.
Wisconsin.....	Loyal.....	April 23, 2 P.M.....	Constructing brick power house, furn. 85 h.p. gas producer and gas engine, 45 k.w. do. cm. gen. and switchboard, etc.....	W. G. Kirchoffer, Madison, C. E.
Kansas.....	Topeka.....	April 29, 2 P.M.....	Furn. 75 kw. dir. cur. generator and engine and remodeling boiler house at Sch. Feeble Minded, Winfield.....	F. W. Knapp, Sec'y St. Bd. Control.
Illinois.....	Chicago.....	April 29.....	Materials for line construction.....	Sanitary District Comm'rs.
Kansas.....	Winfield.....	April 29.....	Engines and 70 k.w. direct current generator.....	John F. Stanton, State Architect.
Georgia.....	Latayette.....	May 1.....	Constructing electric lighting plant.....	J. A. Clements, City Recorder.

## Miscellaneous

New York.....	New York.....	April 9, noon.....	Labor and mat. for sprinkling new-made land on rivers.....	Allen N. Spooner, Com'r Docks.
New York.....	New York.....	April 9, 3 P.M.....	Furn. motor, horse and hand lawn mowers in Bronx.....	Department of Parks.
South Dakota.....	Fort Meade.....	April 10.....	Constructing drainage ditches, bridges, culverts, etc.....	Capt. L. C. Scherer, Q. M., U. S. A.
Alberta.....	Banff.....	April 10.....	Constructing 70 miles of wire fence around Buffalo Park.....	Howard Douglas, Com'r of Parks.
Dist' of Col'b'a.....	Washington.....	April 13, 10:30 A.M.....	Furn. 4,500,000 bbls. Portland cement, Circular 420.....	Col. H. F. Hodges, 1st. Canal Com'n.
Pennsylvania.....	Tarantum.....	April 13, 7 P.M.....	Constructing garbage furnace, 20 tons daily cap.....	Michael Burkett, Chm. H. & S. Com.
Ohio.....	Port Clinton.....	April 13.....	Frescoing interior Court House; cost, \$4,500.....	Ottawa County Commissioners.
New York.....	New York.....	April 13.....	Parts of sweeping machines.....	Foster Cornell, Com'r St. Cleaning.
New York.....	New York.....	April 14.....	Dredging 200,000 cubic yds. in North River.....	Allen N. Spooner, Com'r Docks.
New York.....	New York.....	April 14.....	Six steel frame traveling derricks with gasoline engines.....	Bird S. Coler, Boro President.
Dist' of Col'b'a.....	Washington.....	April 15, 2 P.M.....	Hauling ashes year end, June 30, 1909; price per cu. yd., also furn. mis. supplies to various Federal Dep'ts.....	Secretary of each Dept.
Illinois.....	Chicago.....	April 15, 2 P.M.....	Furn. 25,000 ft. 1-1/2 in., 3-ply; 5,000 ft. 1-1/2 in., 4-ply hose.....	E. G. Shumway, Sec'y So. Pk. Comrs.
California.....	Oakland.....	April 15.....	Riprap wall.....	W. B. Fawcett, Sec'y B. P. W.
South Dakota.....	Hot Springs.....	April 16, noon.....	Bldg. and installing surge tank at power house.....	W. A. Butler, Treas. N. H., D. V. S.
New York.....	New York.....	April 16, 2 P.M.....	Bldg. r'dw'v pavement and inside trolley tracks over new bridge.....	Department of Bridges.
Dist' of Col'b'a.....	Washington.....	April 16.....	Furn. and erecting 7 electric elevators Nat'l Mus. Bldg.....	Bernard R. Green, Supt. Constr.
Massachusetts.....	North Scituate.....	April 17.....	Bldg. concrete sea wall.....	Bd. Harber and Land Com'rs.
Ohio.....	Cleveland.....	April 18, 11 A.M.....	Furn. metal fire protectors, windows Old Court House.....	Wm. F. Black, Clk., Co. Com'rs.
Illinois.....	Waukegan.....	April 20.....	Building pile pier, removing old pier and dredging.....	Maj. W. J. Judson, U. S. A., Mil. Wis.
South Orange.....	New Jersey.....	April 20.....	Collecting ashes and garbage.....	M. A. Fitzsimmons, Vl. Clerk.
Illinois.....	Waukegan.....	April 20.....	Dredging and pier work.....	Maj. W. V. Judson, U. S. Engineer.
New York.....	Albany.....	April 21, noon.....	Erie Canal contracts, Nos. 20, 45 and 64.....	F. C. Stevens, Supt. P. W.
Massachusetts.....	Boston.....	April 21, 2:30 P.M.....	Structural steel work.....	Charles River Basin Com'rs.
Massachusetts.....	Holyoke.....	April 24, 1:30 P.M.....	Furnishing 8-ton tandem steam roller.....	Oscar C. Ferry, Asst. Clk., B. P. W.
Wisconsin.....	Green Bay.....	April 25, 3 P.M.....	Electric passenger elevator in Federal Building.....	James Knox Taylor, Wash., D. C.
New York.....	Crab Island.....	April 25.....	Bldg. granite monument, at Lake Champlain.....	Maj. M. Gray Zalinski, U. S. A., Washington, D. C.
New York.....	Fort Totten.....	April 29.....	Constructing wharf.....	Lieut. C. A. Clark, Q. M.
South America.....	Buenos Ayres.....	May 1, 2 P.M.....	Bldg. 2 underground electric railways, etc.....	Argentine Legation, Wash., D. C.
Quebec.....	Quebec.....	May 1.....	Furnishing 30-ton capacity floating crane.....	St. George Boswell, Ch. Eng'r Harbor Commissioners.
Florida.....	Key West.....	May 1.....	Constructing reinforced concrete sea wall 2,200 ft. long and fill in rear 250,000 cu. yds., at Fort Taylor.....	Capt. C. H. Lanza, Q. M., U. S. A.
Wisconsin.....	Juneau.....	May 4.....	Constructing Horicon drainage ditch; cost, \$400,000.....	Leonard S. Smith, C. E., Madison.
Ohio.....	Columbus.....	May 11, noon.....	Constructing garbage reduction works, cap. 100 tons per 24 hrs., on city land, inc. design, bldg., delivery, etc.....	E. W. Hirsch, Sec'y Bd. Pub. Serv.
Rhode Island.....	Ft. Adams.....	May 21.....	Sea wall.....	Capt. Willis C. Metcalf, Q. M.

## STREET IMPROVEMENTS

**Marysville, Cal.**—All bids were rejected, as too high, for filling with sand and earth certain lots, streets and alleys.—Hugh McGuire, Health Officer; W. M. Meek, City Engineer.

**Colorado Springs, Col.**—E. C. P. Whitaker, City Clerk, has been instructed to call for bids for sidewalk construction in various parts of the city where improvements have been ordered.

**Waterbury, Conn.**—The Board of Public Works, Mayor William E. Thoms, Chairman, has decided to reject all bids for grading Waterville and Hornet streets, and to authorize City Engineer Robert A. Cairns to advertise again for bids; open only to local contractors, who are bona fide residents of Waterbury, and who will agree to employ Waterbury laborers and Waterbury teams, the laborers to receive not less than 15 cents per hour for ten hours' work; the lowest bid of those rejected was submitted by C. W. Blakeslee & Sons, of New Haven, at \$21,362.80, the figures ranging to \$41,267.50; Edward McManus, a local contractor, later submitted a proposal to do the work for \$21,455, instead of \$29,162.50.

**Collinsville, Ill.**—The Board of Local Improvements will invite bids, about April 10, for constructing 67,500 square yards vitrified block paving, with concrete base.—J. S. R. Wadsworth, President; A. C. Powell, Engineer.

**Rockford, Ill.**—This city is preparing to pave main business streets with brick or asphalt, about two miles.—S. B. Hand, City Engineer.

**Gaston, Ind.**—Chas. Witt, City Engineer, is inviting bids for the paving of Fifth street with macadam asphalt.

**Indianapolis, Ind.**—The Board of Works has ordered plans for gravel roadway in Tecumseh street, from Tenth to Pratt street; brick roadway in alley east of Central avenue, from Fourteenth to Fifteenth street; cement walks in Senate avenue, from first alley north of Thirtieth street to Thirty-second street, and brick roadway and stone curb in Hamilton avenue, from Michigan to Tenth street.

Resolutions have been adopted for main drain in Lowell avenue, from Pleasant run to Pennsylvania Railroad; cement walks and curb in New York street, from Jefferson to Beville avenue; cement walks and curb on north side of Polk street, from Highland avenue to Oriental street; gravel roadway in Wetherhorst street, from first alley north of Leonard street to a point 206.83 feet west; cement walks, approach walks, curb and sodded lawns in Woodlawn avenue, from Villa avenue to Nelson street; cement walks, approach walks and curb in Missouri street, from Tenth to Sixteenth street; cement walks on north side of Michigan street, from fourth alley east of Ritter avenue to Ritter avenue; opening and extension of Stuart street, from Twenty-fifth to Thirtieth street, and opening and widening of Martindale avenue, from Twenty-fifth to Thirtieth street.

Final action has been taken for vacation of third alley west of Harris street, from Jackson to Washington street; opening and widening of Sixteenth street, from Tacoma avenue to first alley west; opening of first alley north of Sixteenth street, from Ashland avenue to first alley east, and vacation of Brookville road from Moore to Station avenue, and of Moore avenue from Brookville road to Sherman drive.

**Crawfordsville, Ind.**—H. B. Hulett, City Clerk, will soon invite bids for paving Walnut street.

**Muncie, Ind.**—Improvement resolutions have been adopted to pave with asphalt Main street, from Mulberry street to Madison street; Walnut street, from Main street to North street; Walnut street, from the railroad to Second street, and the east side of Mulberry street, from Adams to Charles street.

A cement alley was ordered to be placed from Walnut street to Mulberry street, between Washington and Gilbert streets.

Consideration of the proposition to pave East Main street, from Madison street to Ohio avenue, West Main street, from High street to Kilgore avenue, and South Liberty street, from Seymour street to the Ft. W. C. & L. Railroad tracks, with brick, was postponed for a few days.

**Iowa City, Ia.**—The city contemplates brick and asphalt paving in sundry streets, at an estimated cost of \$130,000.—Chas. S. McGowan, City Engineer.

**Chanute, Kan.**—Council is considering a number of paving petitions; North Forest avenue may be paved, 36 feet wide, with macadam or brick.

**Coffeyville, Kan.**—Bids are soon to be received for paving, curbing and gutter, separate bids to be submitted on each.

**Independence, Kan.**—Plans are being prepared for eight blocks of brick paving.—J. W. Kramer, City Clerk.

**Lexington, Ky.**—Council has passed an ordinance to replace every brick sidewalk in-

side the fire limits with concrete, and the order is being enforced.—Mayor Skain; City Engineer O'Neill.

**Louisville, Ky.**—Frank Green, County Treasurer, will open bids, April 15, for 120 turnpike bonds, at \$181.25, bearing interest at 4½ per cent.

**Annapolis, Md.**—The Legislature has passed the \$5,000,000 good roads bill, which provides that that sum shall be used during the next seven years in macadamizing the public roads of the State, under a commission appointed by Gov. Crothers.

An appropriation was also made to complete the boulevard from Baltimore to Washington, which work, it is intended, shall be finished in three years.

**Detroit, Mich.**—Council has directed the Department of Public Works to advertise for proposals for paving Livernois avenue, from Michigan avenue to Wabash R. R., 26 feet wide, estimated cost \$34,835; also Livernois avenue, from Dix avenue to M. C. R. R., 44 feet wide, using cedar block on concrete foundation, with Medina, Berea, or other approved curbing.—J. J. Haarer, Commissioner.

**Menominee, Mich.**—Bids will soon be received by John Henes, Park Commissioner, for the construction of boulevard.

**Salisbury, Md.**—The Wicomico County Commissioners will grade and macadamize two miles of public road by day labor.—Thomas Perry, Treasurer.

**Columbia, Mo.**—All bids were rejected for paving Eighth street with vitrified brick; cost, about \$20,000.—E. S. Cauthor, City Engineer.

**Springfield, Mo.**—An ordinance has been passed providing for paving certain portions of Mill street, with brick.—Address J. J. Schneider.

**Webb City, Mo.**—Estimates are being prepared for paving certain streets with brick.

**Jersey City, N. J.**—The Street and Water Board has decided to repave Hudson street, from Montgomery street to Grand street, with wooden blocks, on the petition of E. F. C. Young and other property owners. The Board of Finance has been asked to appropriate \$29,800 for the repaving of West Newark avenue, from Summit avenue to the Hackensack River; specifications for this improvement were adopted.

**Trenton, N. J.**—Council has decided upon the following street paving for this summer: Asphalt, Middle Rose, Decatur Fall, Anderson, Butler, Benton and Beatty streets, Walnut, Hamilton, Cummings and Clinton avenues; bitulithic, Princeton avenue; Belgian blocks, Taylor and Quarry alleys; macadam with vitrified brick gutters, Lalor street; bonds in the sum of \$100,000 will be issued for the work.—Abram Swan, Jr., City Engineer.

**Binghamton, N. Y.**—Bids will shortly be asked for the construction of one-half mile of brick pavement on Main street.—D. C. Herrick, Clerk, Board of Contract and Supply.

**Schenectady, N. Y.**—The Villa Road culvert is to be widened, a portion of the cost of which is to be paid by the railroad companies.—City Engineer Trumbull.

**Akron, O.**—An ordinance has been passed authorizing the issue of \$4,750 bonds, to cover the city's share of paving Bloomfield avenue.

**Alliance, O.**—The City Engineer is preparing plans for paving Columbia street, and for grading several other streets, on which bids will soon be invited.

**Athens, O.**—Bids will be received, April 27, for the purchase of \$15,000 street improvement bonds; interest 5 per cent.—W. B. Golden, City Clerk.

**Barberton, O.**—The Engineer of the village is preparing plans for paving Third street.

**Cambridge, O.**—Council has voted in favor of a bond issue for a large amount of paving which it is proposed to do this summer.

**Cincinnati, O.**—Bids will be received, April 20, for the purchase of \$528,000 street improvement bonds.—Ernst Von Barge, Auditor.

**Conneaut, O.**—Preliminary legislation has been passed for the paving of Jackson street with block asphalt, brick or sheet asphalt, curbing and draining included; West Main street, west to the corporation line, will be paved the coming summer; it is likely that brick, block or sheet asphalt will be used.

**Dalton, O.**—City Engineer Cellarius has submitted the following estimates for street improvements to the Board of Public Service, the prices being based on the construction of cement sidewalks, combined cement curb and gutter and the grading and graveling of the roadway: Euclid avenue, from Lexington to Oxford avenues, \$1,473; Geyer street, from Plant to alley west of Main street, \$1,954; and Gerlaugh avenue, from Bierce to Huffman avenues; Bierce avenue, from Gerlaugh to Martz avenues; Joe street, from Warren to Lincoln streets; Bacon, from Dutoit to Montgomery streets, all 12 cents per square yard.

**Lima, O.**—Council has ordered the paving of North Central avenue and West Elm street.

**Marietta, O.**—The Mayor has vetoed several paving ordinances, but has signed the ordinance for paving Warren street, seven squares, St. Clair street, one square, Know street, one square, East Green street, four squares; about half of the paving will be done this year.

**Middletown, O.**—Council has ordered bond issues for paving Yankee road and Fourth street; estimated cost, \$14,000.

**Portsmouth, O.**—Council has voted a \$35,000 bond issue, to construct flood defenses and paving of Front street, and has also adopted legislation for the beginning of a number of sewer improvements.

**Reading, O.**—Jos. Vedder, Village Clerk, will open bids, May 1, for \$3,123.20 bonds, bearing interest at 5 per cent. per annum, for improving Benson street.

**Springfield, O.**—An ordinance has been passed authorizing an issue of \$50,000 street improvement bonds; interest, 4½ per cent.

Council will pave South Fountain avenue, and it is likely that asphalt will be used, although material is still under consideration by Chief Engineer M. J. Bahin.

Chief Engineer M. J. Bahin announces that he will prepare plans at once for paving several alleys and for constructing a new sewer in South Fountain avenue.

A large number of sidewalks, curbs and gutters are likewise to be constructed.

**Altoona, Pa.**—City Engineer Engstrom has presented the new paving specifications to the Board of Public Works for its approval, and has asked the Board to advertise for bids for the next ten miles of paving; this will be done, and it is understood that no "all or none" bids will be entertained. This will enable the small contractor to bid on a few streets and the city will get the benefit of increased competition.

Work on new and improved roads of Logan township, especially those leading in and out of the city, will be begun shortly; about \$80,000 will be expended, \$35,000 of which will be available by the first of May.—Address Board of Supervisors.

The city will expend \$5,000 as its share of half a mile or more of paving, which is to cost \$15,000.

**Cambridge Springs, Pa.**—Dr. J. A. Logan presented a petition for paving Venango avenue, from the end of the present paving at Lincoln street to the city line, and an ordinance and plans and estimates have been ordered prepared by the Borough Council.

**Erie, Pa.**—Council has passed ordinance to pave East Lake street; also, bills to grade Twenty-fourth street, from Myrtle to Chestnut, and Second street, from Parade to Ash; also for 9-inch drain sewer in Twenty-fourth street, from Myrtle, 380 feet west.

**Pittsburg, Pa.**—Public Works Director A. B. Shepherd has submitted to Council an ordinance carrying the street repaving schedule as revised by himself and Councilman Jacob Soffel, Jr. They were authorized to cut down the original list by the Subcommittee on Appropriations. The schedule as it now stands calls for the expenditure of \$300,000. The list follows:

Fifth avenue, from Sixth avenue east, \$30,000; Smallman street, from Twenty-first street, \$7,000; Twenty-fourth street, from present point to Liberty avenue, \$3,300; Bedford avenue, from Shafer to Chauncey streets, \$6,000; Thirty-ninth street, from Butler street north, \$3,000; Thirty-ninth street, from Penn avenue north, \$8,000; Center avenue, from Neville to Craig street, \$5,000; Hatfield street, from Home street south, \$4,000; Forty-seventh street, from Butler to Hatfield street, \$6,000; Hatfield street, from Forty-fifth street west, \$1,000; Fifty-second street, from Natrona alley to Duncan street, \$4,000; Sheridan street, from Penn avenue to Kirkwood street, \$1,900; Fifth avenue (south side), from Wilkins avenue west, \$22,000; Penn avenue, from P. R. R. bridge to Fifth avenue at Point Breeze, \$28,000; Ellsworth avenue, from Graham to College street, \$11,000; Center avenue, from a point about 900 feet east of Shadyside bridge to Graham street, \$5,000; Race street, from Lang street east, \$8,000; Kedron street, from Homewood avenue to Sterrett street, \$6,000; Penn avenue, from Dallas avenue east, \$12,000; Woodlawn avenue, from Forbes street south, \$4,500; Greenfield avenue, from Kaecher to Lydia street, \$2,100; Carey alley, from South Twenty-fourth street to South Twenty-sixth street, \$4,000; Wharton street, from South Twentieth street north, \$2,600; South Nineteenth street, from East Carson street to Merrimans alley, \$10,000; South Seventeenth street, from present point near Fox street to Sydney street, \$1,600; Muriel street, from South Twelfth street east, \$3,000; Shelby street, from South Eighth street to South Tenth street, \$3,000; Mint alley, from South Eighth street to South Ninth street, \$1,500; South Sixth street, from Birmingham street to P. & L. E. R. R., \$2,000; Boggs avenue, from Greenbush street to Bailey

avenue, \$3,000; Carson street, West, from Thirty-sixth and Fortieth Ward line west, \$3,000; Climax street, from Curtin avenue to Haberman street, \$3,000; Federal street, Northside, from Ohio street to Sixth street bridge, \$25,000; Western avenue, Northside, from Irwin to Allegheny avenue, \$8,000.

Avenues, streets and alleys to be resurfaced: Mansfield avenue, from present part west, \$4,000; Grant boulevard, from opposite Twenty-second street to Craig street, \$30,000; Chartiers street, Northside; Brighton road, Northside; East street, Northside, \$18,000; total, \$300,000.

**Somerset, Pa.**—During the coming summer East Main street will be paved from Diamond square to the "town bridge," a distance of three squares, and an attempt will be made to secure assistance from the State. The Town Council will also take action shortly on the paving of two squares of Union street, from St. Paul's Reformed Church to the High School building; the cost of paving is about \$4.50 a front foot.

**Wilkes-Barre, Pa.**—The Street Committee of Councils received only two bids for the repairing of the asphalted streets, one by the Barber Asphalt Company and the other by the Warner-Quinlan Company, and both were considered too high; in all probability new bids will be advertised for by the next Council.

**Jackboro, Tenn.**—The County Judge will open bids, May 2, for \$50,000 road bonds.

Bids will be received, May 2, for the purchase of \$50,000 Campbell County road bonds; bids will be received for 4, 4½ and 5 per cent. interest; bonds payable in 30 years, with option of redemption after 10 years.—Address County Judge.

**Knoxville, Tenn.**—The city contemplates paving about four miles of streets during the approaching season, using brick, asphalt and bituminous pavements; S. D. Newton, City Engineer, is preparing specifications, and bids will be asked for very shortly.

**Beaumont, Tex.**—Judge Harrison has received from the Secretary of State the \$3,000,000 issue of road bonds, which have been forwarded to Spitzer & Co., New York, the successful bidders.

**Bowie, Tex.**—The citizens have voted to issue \$15,000 street improvement bonds.—William A. Ayres, City Treasurer.

**Alexandria, Va.**—After the question of appropriating \$2,000 for the improvement of Fayette street, between Duke and Princess streets, a distance of five blocks, had been debated at a recent meeting of Council, President Snowdon announced that as it was proposed to appropriate more than \$1,000 the matter would have to be held over; it is explained that the Washington Southern Railway Company had agreed to furnish all necessary material for the work, providing the city will do the grading and lay the curbing. The sum of \$250 was appropriated for the improvement of Fairfax street, between Oronoco and Pendleton street, it being stipulated that the Old Dominion Glass Company will furnish the necessary material. The sum of \$150 was appropriated for the construction of a terra-cotta sewer near the intersection of Cameron and Royal streets.

**Racine, Wis.**—Mayor Hulich has submitted to Council the following list of streets to be improved:

Streets to be paved: East State street, Main street, from the C. M. and St. P. Railway crossing to Fifth street, Monument square, Sixth street from Monument square to Grand avenue, Main street from Sixth street to Fourteenth street, Lake avenue from Sixth street to Eleventh street, Villa street from Sixteenth street to De Koven avenue, Erie street with old stone from Main street, Dodge street, Mead street hill, Washington avenue from Grand avenue to Asylum avenue, Northwestern avenue, Forest street, Freeman court, Kewaunee street from North Main street to Douglas avenue, Racine street, Grand avenue, Packard avenue from Washington avenue to C. M. and St. P. railway tracks.

Streets to be macadamized: Kinzie avenue, Eighth, Ninth, Tenth, Twelfth, Thirteenth and Fifteenth streets, Eleventh street from Wisconsin west.

Repaving: Alley west of Main street between Third and Fifth streets, alley east of Main street, between Second and Third streets.

Streets to be graded: Lake avenue from Fourth to Sixth streets, Liberty avenue from Marquette street to Superior street, La Salle street, Slauson avenue from Phillips avenue to Asylum avenue, Fifteenth street from Thurston avenue to city limits, Dean boulevard from Washington avenue to Sixteenth street, Thurston avenue from Sixteenth street to Seventeenth street, Geneva street from High street to Goold street, Green street from High street to Goold street.

A resolution was passed by Council for paving with brick Washington avenue, from north line of Eighth street to west line of Asylum avenue; also State street, from the C. & N. W. R. R. tracks to Northwestern avenue, and Northwestern avenue, from State to Prospect street.—P. H. Connolly, City Engineer.

## MUNICIPAL JOURNAL AND ENGINEER

### SEWERAGE

**Ensley, Ala.**—City Engineer Van Ohl is making a survey for the purpose of enlarging the sewer system.

**Bisbee, Ariz.**—Council is considering issuing \$150,000 of bonds, \$35,000 of which would go for extending sewer system up Tombstone Canyon.

**Arkadelphia, Ark.**—New sewer commission, of which W. E. Barkman is member, has been appointed to take steps for securing sewers.

**Chico, Cal.**—Residents of East Side are asking that city sewers be extended to that section.

**Lodi, Cal.**—Engineer H. H. Henderson has prepared estimates for sewer, water and light system.

**Rio Vista, Cal.**—E. N. Eager, C. E., Fairfield, is preparing plans for sewer system.

**San Jose, Cal.**—City Engineer is preparing plans for sewers for Fourth Ward.

**Athens, Ga.**—City will vote April 15 on issuing \$40,000 of bonds for extending sewer system.

**Decatur, Ga.**—City has had plans prepared for sewer system.

**Vienna, Ga.**—Bids will soon be called for the construction of sewer system, estimated to cost \$12,000.—Arthur Pew, Atlanta, Engineer-in-Charge.

**Decorah, Ia.**—Citizens are advocating installation of sewer system.

**Clinton, Ia.**—Council has rejected all bids received March 11 for constructing sewers in the Fourth District. The bids ranged from \$179,830 to \$226,914.—C. P. Chase, City Engineer.

**Elgin, Ill.**—C. E. Plum, City Engineer, has made an estimate of \$103,406 for the proposed Sixth Ward sewer system.

**Hooperston, Ill.**—Plans are being made for sewer system, to cost \$100,000.

**Joliet, Ill.**—Assistant Attorney Dan R. Burke has submitted a report setting forth that all legal steps have been finished in court in the matter of the Meeker avenue and Collins street sewer system, and that the final order of confirmation has been entered; it was ordered that the improvement be advertised for bids, the estimated cost, by the City Engineer's figures, being \$7,736.71.

Legal objections have been overruled in regard to Ordinance No. 2327, providing for a Seventh Ward sewer system, at an estimated cost of \$7,817.14.

**Indianapolis, Ind.**—City Engineer Blaine H. Miller is preparing plans for sewer for Irvington. It will be about 1½ miles long and 3 or 4 feet in size at its outlet. Plans are also being made for several smaller sewers, to cost about \$19,000.

**Knightstown, Ind.**—Town Council has voted to construct two miles of sanitary sewer.

**Cedar Falls, Ia.**—The city contemplates constructing sewers in sundry streets.—C. H. Streeter, City Engineer.

**Marshalltown, Ia.**—The city contemplates constructing sanitary sewers in sundry streets; bids will be asked for shortly.—M. Inglede, Mayor.

**Hutchinson, Kan.**—Engineer T. G. Elbury is preparing plans for a vitrified pipe sewer, to cost \$40,000.—Ed. Metz, City Clerk.

**Independence, Kan.**—Plans are being prepared for the West Side vitrified pipe sewer, with septic tank; cost, \$40,000.—J. W. Kramer, City Clerk.

**Newton, Kan.**—Plans are being prepared for a vitrified pipe sewer, to cost \$20,000.—W. E. Grove, Mayor; Adella Martin, City Clerk.

**Wichita, Kan.**—The city contemplates the construction of a brick and vitrified tile sewer, in the College Hill district, to cost \$90,000.—R. N. Dorr, City Clerk.

**Lexington, Ky.**—The city proposes to construct 3,500 feet of sewer by day labor.

**Lawrence, Mass.**—City will construct \$20,000 sewer on Prospect Hill by day labor.

**Revere, Mass.**—Town has appropriated \$29,000 for continuation of a trunk sewer along Ocean avenue.

**Springfield, Mass.**—City Engineer Tighe has completed plans for the Warner street sewer, estimated to cost \$12,000.

**Detroit, Mich.**—The total estimate asked by City Council for sewer work for the next fiscal year is \$395,820, of which \$62,357 is for maintenance and \$333,463 for new sewers.

**Monroe, Mich.**—Proposition to issue \$50,000 of bonds for constructing trunk line sewers will be voted on at coming election.

**St. Paul, Minn.**—L. W. Rundlett, City Engineer, has sent to the Board of Public Works plans and specifications for a sewer more than three miles long, to be built in the Eleventh and Seventh Wards, at a cost of \$90,000. The route of the sewer will be from Jefferson avenue to Victoria street, to the right of way of the St. Paul road; thence to Hamline avenue, and on Hamline avenue to Selby avenue. Council will be asked to pass a bond issue to cover this project, as the city will be required to bear nearly all the expense in its construction.

**Minneapolis, Minn.**—Council has received

estimates for sewers to be constructed in the year 1908.—Address City Comptroller.

**St. Joseph, Mo.**—Council has passed ordinance to issue \$345,000 of bonds for extension of main sewer; matter will be voted on at Spring election.—W. E. Spratt, Mayor.

**Kansas City, Mo.**—Rudolph Herring, Consulting Engineer, New York City, is to visit this city with a view to determining what steps must be taken to install a septic sewer system; the cost of installing the sewers is estimated at from \$5,000,000 to \$7,000,000.

**Helena, Mont.**—Council has passed ordinance to vote on issuance of \$70,000 of sewer bonds.

**Batavia, N. Y.**—This city has voted down proposition to expend \$325,000 for constructing sewer system.

**Binghamton, N. Y.**—The city will shortly install a storm water sewer system, for which plans are now being prepared by John A. Giles, City Engineer.

**Dunkirk, N. Y.**—A municipal sewage disposal plant is under consideration here.

**Hempstead (L. I.), N. Y.**—Village will vote at March election to determine whether a sewer system shall be installed. Surveys have not been made as yet.

**Heuvelton, N. Y.**—This place will soon ask for bids for constructing a system of sewers.—A. Thornton, Chairman committee; C. O. McComb, Engineer, 403 University street, Syracuse, N. Y.

**Syracuse, N. Y.**—Intercepting Sewer Board, Glenn D. Holmes, Chief Engineer, Court House, will call for bids this summer for constructing the intercepting sewer and creek improvements.

**Barberton, O.**—The city will advertise for bids for the completion of the sewer in District No. 1 at once.

**Bellaire, O.**—Sewers are to be constructed on South Guernsey street and Walnut alley.

**Celina, O.**—The people of this village will vote in a short time on the question of a bond issue for a complete system of sewage; general plans for the system have been devised.

**Portsmouth, O.**—The construction of a sanitary sewer between Second and Third streets will be authorized.

**Sandusky, O.**—Joseph Loth, Jr., City Auditor, will open bids April 16 for the purchase of \$2,500 4 per cent. semi-annual sewer construction bonds.

**Springfield, O.**—Council will be asked to construct the Indian Run sewer, which will afford relief to a large section of the city now greatly in need of sewer facilities.

**Sabina, O.**—This place is considering installing sewer system.

**Wilmington, O.**—Town Council has passed resolution for installing complete sewer system.

**Galion, O.**—Plans and specifications are being prepared for a sanitary sewer system for this city.

**Marion, O.**—County Commissioners are considering installing sewage disposal plant to cost \$5,000 at county infirmary.

**Carlisle, Pa.**—Bids will probably be asked this year on constructing sewer.

**Franklin, Pa.**—F. T. Sutley has been awarded the contract for constructing the surface sewer in the Third Ward at \$7,619; there were eight other competitors.

**Harrisburg, Pa.**—Ordinance is before Council for building main sewer in Paxton street.

**Indiana, Pa.**—Construction of sewers in Sixth, Seventh and Ninth streets is proposed.

**Huntingdon, Pa.**—Sewers are to be constructed in Moore and Mifflin streets.

**Philadelphia, Pa.**—Plans for the construction of two main sewers on Tulip street, from Allegheny avenue to Westmoreland street, that will cost in the neighborhood of \$20,000, and on Jasper street, from Franklin avenue to Bockius street, to cost about \$25,000, have been approved by the members of the Board of City Supervisors.

**Sharon, Pa.**—Council has decided to construct 200 feet of sewer on Bridge street, employing labor direct.

**Woodlawn, Pa.**—State Health Department has granted Jones & Laughlin Steel Company a permit for a sewer plant at Woodlawn, Beaver County.

**South Canonsburg, Pa.**—State Health Board has granted this place permit for sewer construction.

**Carthage, S. D.**—Bids will be received for material and labor for the completion of the entire sewer, or material alone, labor to be furnished by the city; sewer to be 2,580 feet long, using 12-inch vitrified sewer tile, three manholes, three catch basins and some twenty private connections; the latter are separate from bids above asked for.—Address C. E. Barkl.

**Knoxville, Tenn.**—The city contemplates constructing a small amount of sewer lines this season.—S. D. Newton, City Engineer.

**Parkersburg, W. Va.**—Board of Affairs has passed ordinance for the extension of storm sewer in Fourth, Fifth, Seventh and Eighth Wards at a cost of \$3,000.

**Janesville, Wis.**—City proposes to expend about \$60,000 this year for sewer construction. C. V. Kerch, City Engineer.

**Racine, Wis.**—Mayor Horlich has submitted to Council the following list of sewer improvements: Lower Tenth street sewer, from Blue River to Lave avenue; sewer and water connections on Grand avenue, from Seventh street to De Koven avenue; extend Blue River sewer, from Sixth street to Root river; extend overflow Forest street sewer to the river; deepen river channel to carry off sewage, from Liberty and Forest street sewers; sewer on Kewaunee street, from Marquette to La Salle streets; sewer in extension of La Salle street from Kewaunee to St. Patrick streets; sewer in Charles street, from Rapids road to Goold street.

**Huntington, W. Va.**—A number of sewer contracts are to be awarded by Council, the amount to be expended for this purpose, including the contracts already let, is estimated at \$6,000.

### WATER SUPPLY

**Lake Village, Ark.**—Bids will be received April 15 for the purchase of \$30,000 6 per cent. 20-year light and water bonds.—Her- man Carlton, Secretary of Board of Improvements.

**Bisbee, Ariz.**—Council is considering issuing \$50,000 of bonds for enlarging water supply system.

**Pine Bluff, Ark.**—Plans for the new plant of the Pine Bluff Light and Water Company have been completed, and the contract will soon be let.

**Vallejo, Cal.**—The City Trustees propose to expend \$85,000 to build additional reservoir.

**Centralia, Ill.**—Council has decided to expend \$13,000 in improving water system; a reservoir will be constructed, and pumping engine purchased.

**Canon City, Col.**—Council has passed ordinance providing \$225,000 of bonds for the water system.

**Fort Morgan, Col.**—Badger Creek Reservoir Company has been incorporated with a capital stock of \$172,000 by A. K. Clarke, O. H. King and W. S. Abbott.

**Tampa, Fla.**—Election may be called in near future to provide for new water plant.

**Kendrick, Ida.**—Kendrick Water Company has been granted franchise for installing and maintaining water works.

**Grafton, Ill.**—An election will be held April 21, to decide the question of issuing \$20,000 water works bonds.—W. H. Journey, Mayor.

**Joliet, Ill.**—A report showing all legal steps concluded in the Meeker avenue and Collins street water main system was submitted, with a record of the entry of the confirmation; estimated cost, \$4,281.60; bids were ordered advertised for.

**Dubuque, Ia.**—Council has under consideration the establishment of a meter system.

**Muscatine, Ia.**—Council proposes to extend water system; estimated cost, \$20,000.

**Lamont, Ia.**—Council proposes to establish water system, estimated to cost \$25,000.

**Concordia, Kan.**—Estimates are being prepared for improving the water systems.

Bonds have been voted for establishing water plant.

**Lyons, Kan.**—Bonds have been voted for establishing water plant.

**Ruston, La.**—The citizens have voted \$50,000 bonds for water supply and electric lighting system.

**Winfield, Kan.**—Plans are being prepared for a concrete and cement reservoir of 300,000 gallons capacity.—A. West, Superintendent.

**Portland, Me.**—The Trustees of the Portland Water District have sold \$42,000 worth of Portland Water Company 4s, due to mature in 1927, to the Maine Savings Bank, the highest bidders, who submitted a bid of par and interest. These bonds are sold to meet an issue of 5s, which fell due April 1, 1908. The sale was made by the Portland Water Company, which is now operating the property of the Portland water district.

**Ellicott City, Md.**—City is considering local water works.

**Bay City, Mich.**—City Water Department will lay about three miles of mains this year.

**Bessemer, Mich.**—City will vote \$25,000 of bonds for enlarging water works.

**Saginaw, Mich.**—The Water Works Board has recommended the construction of a new pumping station, improvements to cost about \$12,000.

**Brainerd, Minn.**—An election will be held to vote on the question of issuing \$159,000 bonds for the purchase of water system owned by private company.

**East Grand Forks, Minn.**—The plans for the new water system include filter plant.

**Alba, Mo.**—A \$12,000 bond issue has been voted by this city for water works construction.

**Helena, Mont.**—Council has passed ordinance to vote on issuance of \$600,000 of water bonds.

**Grand Island, Neb.**—W. K. Parker, Consulting Engineer, Kansas City, Mo., is preparing detailed plans and specifications of

water works extension and improvements of the pumping station.

**Sidney, Neb.**—Bids will be received at any time for the purchase of \$20,000 6 per cent. water bonds.—Leslie Newbauer, Village Clerk.

**Trenton, N. J.**—House bill 135, introduced by Mr. Young, of Essex, and of interest to Newark in that it will permit that city to issue bonds to the extent of \$1,000,000 for the purpose of acquiring additional water supply territory, passed the Assembly.

**Heuvelton, N. Y.**—This place will soon ask for bids for constructing a system of water works.—A. Thornton, Chairman committee; C. O. McComb, Engineer, 403 University street, Syracuse, N. Y.

**Kenilworth, N. J.**—Bids are being received by the Kenilworth Water Company, 220 Broadway, New York City, for installing a water works system, consisting of water tower, pumping station and about six miles of pipe; estimated cost, \$35,000.—W. L. Scott, Treasurer, 220 Broadway; C. C. Vermeule, Consulting Engineer, 203 Broadway, New York City.

**New York, N. Y.**—Board of Water Supply will ask \$20,000,000 appropriation, so that several more contracts for the Catskill water supply may be let before summer.

**Oswego, N. Y.**—According to figures discussed at a meeting of the Water Department to-night, there is \$73,000 still left out of the \$273,000 specified for the new water system which is still unbid. The bids total \$185,000 and \$15,000 is allowed for contingencies. Of the \$73,000, \$35,000 will go for pumps, \$2,000 for real estate, and the balance of \$36,000 into the pump house building.

**Syracuse, N. Y.**—Plans are being prepared for a new thirty-inch conduit line, nineteen miles in length, and new distributing reservoir; bids will be asked for about July 1.—George H. Beebe, Chief Engineer and Superintendent.

**Barberton, O.**—Estimates are being prepared to improve water system in West Barberton; about \$18,000 will be expended.—Address W. E. Miller.

**Bryan, O.**—Bids will be received April 25 for the purchase of \$10,000 5 per cent. water works bonds.—F. W. Radabaugh, Village Clerk.

**Cambridge Springs, O.**—City Solicitor Board has reported to the Borough Council a batch of correspondence with the Pittsburgh Filter Manufacturing Company concerning the blower to be installed in the new filter system, and the matter has been referred to the Filtration Committee.

**Cincinnati, O.**—Bids will be received April 13 for the purchase of \$300,000 water works improvement bonds, interest 4 per cent.

**Newark, O.**—Bids will be received April 15 for the purchase of \$85,000 4½ per cent. water works bonds.—Frank T. Maurath, City Auditor.

**Newton Falls, O.**—It was decided by a big majority to issue \$20,000 of bonds for constructing a system of water works, and the Board of Public Affairs is in the market for plans, etc.—Carl W. Smith, Secretary.

**Springfield, O.**—It is proposed to expend \$20,000 for making water extensions.

**Urbania, O.**—Expert engineers are to inspect the local water works plant to obtain data as to whether this city shall build a municipal plant or buy the present one; J. F. Brand is Chairman of the Council committee to look into this matter.

**Granite, Okla.**—Estimates are being prepared for water system to cost \$20,000.—G. W. Brown, President of Town Board.

**Woodward, Okla.**—Council proposes to sink an artesian well to secure water supply.

**Sharon, Pa.**—The Sharon Water Works Company has placed a contract with a Milwaukee firm for a new pump, with a capacity of 6,000,000 gallons and to cost \$25,000.

**Tarentum, Pa.**—The citizens at mass meeting endorsed the project to erect a municipal water plant to replace the Allegheny County Water Company's service. It was estimated \$150,000 would build the plant, and a bond issue for that amount may be approved by Council. Besides Burgess J. W. Kennedy, who presided, other speakers were O. C. Camp, J. L. Rutherford, Nelson McVicker, William H. Harris and John Duster.

**Bryant, S. D.**—The question of issuing bonds for water supply will be submitted to a vote of the people.

**Yankton, S. D.**—Council proposes to change the system of securing water for city purposes.

**San Antonio, Tex.**—Bids will be received for iron tower and tank by Alfred Giles, Architect.

**Ephraim, Utah.**—Council is preparing to establish a water plant.

**Nephi, Utah.**—The water supply is insufficient, and the matter of enlargement will be taken up immediately by Council.—J. A. Hyde, Mayor.

**Racine, Wis.**—Mayor Horlich has submitted to Council the following list of water main extensions: Extension of water mains

on Twelfth street, from Harbridge street to eighth section line; extension of water mains on Dean boulevard from Washington avenue to Wright avenue.

**Tomah, Wis.**—Bids will be received April 13 for the purchase of \$15,000 5 per cent. 15-year average water works bonds.

**Havana, Cuba.**—The Cienfuegos Local Council voted unanimously to annul the contract for an aqueduct awarded to Hugh T. Reilly, involving the sum of \$3,500,000. Governor Magoon will probably refer the matter to the Washington authorities. The Cienfuegos Council claims that the contract had been fraudulently obtained.

### LIGHTING AND ELECTRICITY

**Gadsden, Ala.**—An extension of one year's time has been granted the Tri-city Gas Company, which is building a gas plant for this city, Atalla and Alabama City; owing to the money flurry the company has experienced some delay in securing funds; the plant will be built this year.

**Eureka Springs, Ark.**—M. B. Baird, of Tulsa, Okla., has purchased the Blue Spring and properties surrounding the Walden Switch on the north side of the White River, and proposes to install an electric plant, which will take its power from the source of the spring. The company will be known as the Eureka-Blue Spring Water Company and intends to establish a pleasure resort.

**Atlanta, Ga.**—The Railroad Commission of Georgia has approved a stock issue of \$20,000,000 and bond issue of \$16,000,000 by the Central Georgia Power Company, of Macon, and it is understood that the company will proceed with the development of its water power on the Ocmulgee River, near Jackson, on the Oconee River, near Milledgeville, and on other rivers in Georgia.—W. Jordan Masee, Macon, President; Charles F. Howe, Chief Engineer.

**Elberton, Ga.**—Broad River Power Company will be chartered to establish water power electrical plant on Broad River; plans to construct dam and build electric power plant for transmitting electricity to lighting and manufacturing plants; A. S. J. Stovall, A. S. Oliver, E. B. Tate, I. G. Swift and others of Elberton are interested.

**Chicago, Ill.**—Estimates are wanted by the Pfannmueller Engineering Company, First National Bank Building, Chicago, for alternator and engine; 75 to 125-kw. 60-cycle, 3-phase, 440-volt alternator, direct connected to engine; also one 100-kw., 60-cycle, 3-phase, 220-volt, belt-driven alternator and switchboard.

**Gridley, Ill.**—D. A. Steiner of Bern, Kan., has petitioned for franchise to install an electric light plant in Gridley.

**Orion, Ill.**—The electric light plant at Orion owned by the village was almost totally destroyed; loss about \$8,000; the village is temporarily without light, but arrangements are under discussion for running a wire over from Alpha, which desires to supply the service.

**Vincennes, Ind.**—The Shaffer natural gas holdings in this city have been purchased by the local gas company, and a petition was presented to the Board of Public Works asking for a franchise to the Vincennes Light and Power Company to furnish natural gas to the city; the company at present has a contract with the city to furnish artificial gas at the rate of 95 cents per thousand; the price set by the new company is 30 cents per thousand.

**Hartley, Ia.**—Bonds, \$12,000, were voted for an electric light plant.

**Jackson, Ky.**—The Jackson Electric Light and Power Company has been reorganized under the name of the Jackson Electric and Hydraulic Manufacturing Company, with L. P. Gunn, A. S. Moore and J. W. Norwood, all of Lexington, as incorporators; the new concern will operate a light plant and water works, and will manufacture ice; the company is now incorporated for \$20,000.

**Ruston, La.**—Bonds, \$50,000, have been voted for improving light and water plant.

**Plainwell, Mich.**—Owing to floods in the Kalamazoo River, the Commonwealth power dam below here has given away, the center pier and the gates being carried out; President W. W. Foote says the damage is between \$5,000 and \$10,000.

**Wayne, Mich.**—The Village Council has let contract to Washtenaw Light and Power Company, of Ann Arbor, to illuminate the streets; the company will install a plant here and have it in operation by October 1.—R. W. Hemphill, Ypsilanti, General Manager.

**Farmington, Mo.**—The city is having plans prepared for electric light plant, estimated to cost \$25,000; plans will be completed and submitted for bids early in April.—Thomas B. Carter, Engineer-in-Charge.

**St. Joseph, Mo.**—The St. Joseph Railway, Light, Heat and Power Company proposes to construct an interurban line to Savannah; estimated cost of work, \$300,000.

**Great Falls, Mont.**—Engineer John R. Ellis, 112 Monroe street, will prepare plans for a coal gas plant for the Commercial Gas and Electric Company, care Fletcher S. Heath, 122 Monroe street, Chicago; work will consist of twelve miles of mains; the plant will have a capacity of 100,000 feet per day; approximate cost, \$150,000; work will be done by the day.

**Dunkirk, N. Y.**—Charles Wille, Water Commissioner, states that steps are to be taken towards the installation of a number of electric arches in this city.

**Madisonville, O.**—Bids will be received April 29 for the purchase of \$10,000 25-year, 4 per cent, electric light bonds.—Address Village Clerk.

**Ft. Gibson, Okla.**—The Grand River Light and Power Company has been incorporated with \$15,000 capital by T. J. Bardmont, M. C. Meige and others.

**Waureka, Okla.**—The city has granted a franchise to M. Griffin O'Neil of Dallas, Tex., to install an electric light plant to cost about \$10,000; construction will be started at once.

**Deadwood, S. D.**—The Black Hills Traction Company has secured water rights on Sand Creek and will probably develop it for electric power.

**McMinnville, Tenn.**—John Henderson is interested in establishment of water power electrical plant at Caney Fork Falls, near McMinnville.

**Potomac, Va.**—The Council of this town, newly incorporated in Alexandria County, has decided to advertise for bids for an electric light franchise.—J. E. Supplee, Mayor.

**Rosalia, Wash.**—The Inland Empire Electric R. R. Co. has a franchise for an electric lighting system, and expects to have the system in operation by July.

**Milwaukee, Wis.**—R. W. Hunt & Co., The Rookery, Chicago, Ill., have prepared estimates for the Board of Public Works for a municipal electric lighting plant, which will cost the city between \$823,492 and \$1,245,449. The figures in the report were upon 2,000 and 3,000 arc lamps, with one extra unit for commercial purposes in each instance. Separate figures are given for plants run by gas and by steam. The plant run by gas and of 3,000 lamp capacity will cost \$1,245,449, while for 2,000 arc lamps the cost will be \$920,867. A steam plant for 2,000 lamps will cost \$823,492, and for 3,000 lamps, \$1,079,607. An election will be held to vote on question this month.—Charles G. Poetsch, City Engineer.

**Rhineland, Wis.**—The Rhineland Lighting Company has been incorporated with \$100,000 capital by John Lind, C. F. Dixon and others.

**Winnipeg, Man., Can.**—Council has decided to proceed with the water power development at Point du Bois Falls as soon as possible, and the Board of Control has taken steps toward the construction of the tramway from Las du Bonnet to Pointe du Bois.—Cecil B. Smith, Electrical Engineer.

## FIRE EQUIPMENT

**Manitou, Col.**—Council will reorganize the Fire Department; improvements will be made.

**Canton, Ill.**—Fire Chief Hall has petitioned for the purchase of a new fire truck.

**Springfield, Ill.**—Council has under consideration the purchase of larger fire engines.—Maj. J. W. Southwick, Superintendent of Water Works.

**Ely, Minn.**—Council proposes to purchase 1,000 feet of hose.

**Rutherford, Minn.**—Council proposes to establish fire company.

**St. Paul, Minn.**—A fire house is to be erected at Grand and Snelling avenues. The building will be equipped with the latest fire apparatus.

**Newton, Miss.**—A fire company has been organized.—Milton Gary, Chief.

**Syracuse, N. Y.**—Mayor Allan C. Forbes is in favor of remodeling the fire alarm system at a cost of \$60,000.

**Warsaw, N. Y.**—Dr. M. J. Wilson can be addressed concerning the purchase of a chemical fire engine.

**Chardon, O.**—Arrangements are being made to build a fire hall.

**Columbus, O.**—Council has authorized an issue of \$70,000 of bonds for building and equipping a fire engine house on East Chestnut street.—W. R. Diehl, Secretary Board of Public Safety.

**Lorain, O.**—Architect H. O. Wurmser has prepared plans for a two-story fire engine house for the Board of Public Service.

**Harrisburg, Pa.**—Councils have appropriated \$3,000 for the erection of a fire house for the Allison Fire Company.—C. Augustus Garverich, Chief Engineer.

**Philadelphia, Pa.**—Arrangements are being made to build fire house at 239 South Sixth street.—Address Fire Commissioner.

**Spring City, Pa.**—Architect J. V. Poley, 160 and 162 Second avenue, Royersford, Pa., is preparing plans for an addition to fire engine house for the Liberty Fire Company;

three stories, 28x44 feet, local brick and stone, iron and steel work, concrete flooring, tin roof, hard plaster, electric fixtures, etc.—Address Company.

**Galveston, Tex.**—Fire Chief Gernand has petitioned for the purchase of two hose wagons.

**Richland Springs, Tex.**—A fire company has been organized and equipments will be purchased.

**Alexandria, Va.**—Councilman Spinks has introduced a resolution in Council, authorizing the committee on public property to ascertain the cost of the installation of water instead of gas heaters in the fire engine houses; also resolution providing an appropriation of \$2,500 for widening the fire escapes at Peabody school building and making other improvements; \$230 was appropriated for installing electric wires in the various fire engine houses.

## PUBLIC BUILDINGS

**Pasadena, Cal.**—It was decided by a big majority to issue \$150,000 of bonds for school building purposes.—M. W. Davis, Clerk School Board.

**Augusta, Ga.**—L. F. Goodrich, Architect, 115 Eighth street, Augusta, is preparing plans for the proposed two-story City Hall; estimated cost, \$200,000.—W. M. Dunbar, Mayor.

**Pana, Ill.**—Architects Patton & Miller, Chicago, have prepared plans for a \$45,000 high school building for the Board of Education.

**Villa Grove, Ill.**—Architects McCoy & Stuebe, Danville, have completed plans for a \$12,000 two-story addition to school building for the School Board.—J. J. Jones, President.

**La Porte, Ind.**—Bids will be received May 5 for the purchase of \$125,000 5 per cent, La Porte County Court House bonds.—Chas. H. Miller, County Auditor.

**Williamsport, Ind.**—Architects McCoy & Stuebe, Danville, are preparing plans for alterations and additions to two-story school building for the School Board; \$12,000.

**Clinton, Ia.**—The School Board contemplates erecting a school building, to cost \$25,000.—Address Secretary.

**Des Moines, Ia.**—The Board of Education, John W. Ray, President, contemplates building additions to the following schools: Easton place, Grand View, Washington and Oakland; a building committee will be appointed.

**Keokuk, Ia.**—The School Board, William Aldrich, Superintendent, contemplates erecting a school building, to cost from \$20,000 to \$25,000; the Board is now receiving preliminary plans.

**Waterloo, Ia.**—The East Waterloo School District, H. B. White, Secretary, voted \$20,000 of bonds for the erection of a manual training school addition to the high school; total cost, \$40,000; architect not selected.

**Eldorado, Kan.**—Butler County, W. H. Clark, County Clerk, contemplates the erection of a Court House.—Sol. Anderson, R. F. D., Rosalia, Chairman of County Board.

**Independence, Kan.**—The city contemplates the erection of a brick and stone City Hall, to cost \$30,000; Architect not selected.—J. W. Kramer, City Clerk.

**Winfield, Kan.**—Cowley County contemplates the erection of a brick and stone Court House and jail, to cost \$80,000; plans will be received by the County Board.—C. A. Howard, Chairman, Arkansas City; A. H. Abrams, County Clerk.

**Annapolis, Md.**—Liberal appropriations have been made by the Legislature for the Maryland Agricultural College; also for the reformatory at Cheltenham.

**Brentwood, Md.**—An appropriation of \$8,000 was made by the Legislature for the construction of a school building at Brentwood, the character of the building to be determined by the residents of the Prince George village.

**Upper Marlboro, Md.**—An appropriation of \$12,000 has been made by the Legislature for improvements to the Court House.

**Flint, Mich.**—Architects E. C. Van Leyen & E. A. Schilling, Detroit, have prepared new plans for a \$50,000 two-story and basement school building for the Board of Education.—W. T. Lewis, Secretary.

**Valley Park, Mo.**—Architect J. H. Lynch, St. Louis, is preparing plans for a two and a half story \$25,000 school building for the Board of Education.

**Bayonne, N. J.**—Architect L. C. Holden, New York City, is receiving estimates for a three-story addition to hospital for the Bayonne Hospital and Dispensary; cost, \$35,000.

**Garwood, N. J.**—Architect D. B. Provost, Elizabeth, has completed plans for a \$16,000 two-story addition to school building for the Board of Education.

**Montclair, N. J.**—Architects Hale & Rogers, New York City, have completed plans for a \$60,000 two-story school building for the Board of Education.

**Ridgefield Park, N. J.**—Architect Ernest Sibley, Grantwood, is receiving estimates for

a three-story school building, 95x62 feet, for the Board of Education; brick, slate roof, steam heat, water closets, lavatories and copper ventilators.

**Trenton, N. J.**—Governor Fort has signed two bills correcting flaws in the legislation enacted last winter to permit Trenton to build a new \$600,000 City Hall. Quartermaster General C. Edward Murray, Ferdinand W. Roebling and former Senator Jonathan Blackwell, the Commission named last year, will now go ahead with the building of the new City Hall.

**Vineland, N. J.**—State Architect Poole is preparing plans for the installation of a new heating and lighting plant at the Soldiers' Home, Vineland; bids will be asked for by the Board of Managers.—E. C. Stahl, Secretary, Trenton.

**Santa Fe, N. M.**—Bids will be received April 30 for the purchase of the following bonds: \$25,000 20-30-year optional Agricultural College; \$25,000 10-20-year optional Insane Asylum; \$25,000 10-20-year optional Military Institute; all 5 per cent.—J. H. Vaughan, Territorial Treasurer.

**Albany, N. Y.**—The Commission on New Prisons will select an architect about May 1 for the State Prison, to be built in the city at a cost of \$2,000,000.—Geo. McLaughlin, Secretary.

**Buffalo, N. Y.**—The Erie County Board of Supervisors and Dr. Chas. F. Howard, President State Prison Commission, have retained Architect J. W. Beardsley, Poughkeepsie, to prepare plans for remodeling penthouse building; \$15,000.

**Canal Winchester, O.**—Architects Howard, Insch & Merriam, Columbus, are preparing plans for a \$25,000 two-story school building for the Board of Education.

**Delta, O.**—Bids for the addition to the public school building, Delta, have been rejected and new plans will be prepared.—Dr. O. J. Wisman, Secretary; Geo. S. Mills, Architect.

**New Lexington, O.**—Architects Howard, Insch & Merriam, Columbus, have plans for a \$35,000 two-story school building, with independent fireproof heating plant detached from main building, for the Board of Education.

**Port Clinton, O.**—Architect H. O. Wurmser, Lorain, has been selected to prepare plans for a \$25,000 two-story school building for the Board of Education.—X. J. Hopfinger, Clerk.

**Chickasha, Okla.**—The Board of Education contemplates issuing \$85,000 bonds for school building purposes; a high school building, to cost approximately \$50,000, furnished and equipped, is first contemplated; the balance of the money to be used in making additions to and repairing the three ward buildings; the Board wants plans, specifications and estimates of cost.—A. G. Harris, Secretary.

**Albion, Pa.**—The high school building has been totally destroyed by fire; plans will be prepared and building rebuilt at once.

**Fortyfort, Pa.**—A. J. Lathrop, Kingston, has been selected as architect to draw plans for a \$23,000 school building for the borough; brick, terra cotta trimmings, slate roof, concrete cellar, fireproof rooms for the heating apparatus, one office, one auditorium and six class rooms.

**Pittsburg, Pa.**—Seven plans for a new City Hall site, which have been submitted to Mayor George W. Guthrie's City Hall Commission, are being considered by that committee.

**Bishopville, S. C.**—Bids will be received April 28, noon, for \$35,000 5 per cent Lee County Court House bonds.—R. N. McLendon, County Court House Commission; W. A. James, Secretary.

**Manning, S. C.**—Bids will be received April 15 for the purchase of \$60,000 5 per cent, 40-year Court House bonds.—Chas. Durant, Secretary Court House Commission.

**Rapid City, S. D.**—Architect George W. Ashby, Chicago, has made plans for a school building for the Board of Education.

**Rosebud, Tex.**—The School Board accepted the plans of Architects Charles Page, Jr., & Bro., Austin, for a \$25,000 school building; 89x128.

**Green Bay, Wis.**—The County Board has authorized an issue of \$50,000 bonds for the purchase of a location for Court House.—Address County Auditor.

**Rhineland, Wis.**—The plans of Architect C. H. Tegen, Manitowoc, were accepted for the Court House for Oneida County; cost, \$100,000.—Arthur Taylor, Chairman Building Committee.

## ELECTRIC RAILWAYS

**Catlin, Ill.**—The Illinois Traction System, Champaign, Ill., is securing its right of way for an extension of its line from this place to Fairmont and Bennett's Station and thence to Homer.

**Chicago, Ill.**—The Chicago, Milwaukee Electric Railway Company has petitioned for authority to issue \$1,000,000 in receiver's

certificates for the construction of the Wisconsin division of the electric road.

The Secretary of State has granted a license to Carey W. Rhodes, Elmer Schlesinger and Edwin D. Lawlor of Chicago; Edward Doepp of Blue Island, and Hal C. Bangs of Glenco to incorporate the Illinois Inland Traction Company to build a traction line from Chicago to Kankakee; capital stock, \$100,000.

**Elgin, Ill.**—The Elgin, Woodstock & Lake Geneva Railroad Company have applied for a charter to construct an electric road from Elgin to Lake Geneva; the proposed line will connect Chicago with the lake region by electric rail.

**Streator, Ill.**—General Manager Chubbuck, of Ottawa, Ill., the Chicago, Ottawa & Peoria Interurban line, has awarded contract for building its Streator-Ottawa branch to the Central Illinois Construction Company.

**Evansville, Ind.**—Directors of the Evansville & Olney Traction Company have decided to order a survey of the line at once. The proposed road will cross the Wabash River at Mt. Carmel.

**Winchester, Ind.**—Promoters of Decatur-Richmond traction line will hold a meeting here on April 6, at which time an organization will be effected for the purpose of floating stock in the proposed line.

**Coffeyville, Kan.**—The Kansas Traction Company, a corporation chartered about a year ago, has placed a force of surveyors in the field to lay out an electric line from here to Lawrence, with branches from Lawrence to Topeka and Kansas City. It is estimated that the line will be 216 miles long and that its total cost will average \$23,600 a mile. Paul Julian, of Indianapolis, Ind., has charge of the survey. The project is said to be financed.

**Springfield, Mass.**—Springfield Street Railway Company, 1 Main street, Springfield, has applied for franchise in Chicopee Falls for an extension of its East Main street line.

**Gardiner, Me.**—The construction of an electric railway between Topsham and Gardiner is projected; road would be about 27 miles long. Amos F. Gerald, Fairfield, Me., is interested.

**Buchanan, Mich.**—Arrangements are being made to rebuild the dam owned by F. A. Bryan of the Indiana & Michigan Electric Railway; the new dam will be built of concrete; estimated cost of work, \$700,000.

**Kansas City, Mo.**—Kansas City-Leavenworth Electric Railway Company is stated to have secured controlling interest in the Kansas City & Olathe Railroad Company, A. F. Hunt, President, Thirty-ninth street and Genesee street, Kansas City. The Kansas City and Olathe line runs from Thirty-ninth street and State line to Olathe, Kan., 22 miles. It is operated by gas-electric power, but the new owners will convert it into an overhead trolley line.

**Bozeman, Mont.**—Gallatin Valley Electric Railway Company has filed its articles of incorporation, and, according to H. L. Casey, President of the Gallatin Valley Club, work will be pushed actively.

**Asheville, N. C.**—Final surveys for the proposed Asheville-Hendersonville electric railway have been completed. Offices of the company are in the Oates Building, Asheville.

**Tulsa, Okla.**—Cherokee Belt & Interurban Railroad Company, of Tulsa, has been chartered with a capital stock of \$500,000 and proposes to construct and operate a belt line and interurban line through the counties of Osage, Tulsa, Rogers and Mayes from a point on the Midland Valley Railroad to a point on the Missouri, Kansas & Texas Railway, the line to cost not more than \$10,000 per mile. The incorporators are F. E. Monette of Kansas City, C. W. Butterworth of Tulsa, J. R. Caudle, E. Peas and A. E. Leap, all of Collinsville, Okla.

**Ellwood City, Pa.**—A charter was granted to the Ellwood City and Wurtenberg Electric Railway Company, to construct a three-mile line; capital, \$18,000; directors, J. T. Macklin, Frisco, Beaver County, President; John M. Curry, S. P. Turner, J. N. Kirker, S. C. Vangorder, H. G. French, and J. H. Newton, Wurtenberg, and J. Z. French and A. Tortier, Ellwood City.

**Hanover, Pa.**—Hanover & McSherrystown Street Railway Company contemplates extending its line from McSherrystown to New Oxford, five miles, and from that point to Berlin Junction. A contract for the extension of the line to Littlestown, 7 miles, has already been let to John Dobbling, and is to be completed by July 1.

**West Chester, Pa.**—West Chester & Wilmington Electric Railway has secured practically all of its right of way between Wilmington and Brandywine Summit and proposes to commence construction work by April 1. The Eastern Railway Construction Company was organized recently to build the road. Gerald J. O'Connell, West Chester, Pa., is Secretary of the construction company.

**El Paso, Tex.**—The Water Users' Association has petitioned Council for authority to construct an electric line on certain streets.

—Joseph U. Sweeney, Mayor.

**Jacksonville, Tex.**—R. H. Norton, representing the Berry Construction Company, Boston, Mass., has asked franchises and right of way for an interurban line, 33 miles long, to run from Jacksonville, via Dialville, Rusk and Alto.

**Ogden, Utah.**—Ogden Rapid Transit Company, David Eccles, President, Ogden, is planning to build an extension to Brigham City. M. S. Browning has purchased water rights in Willard Canyon and will erect a power house to supply power for the extension.

**Spokane, Wash.**—The Washington Water Power Company will expend \$1,000,000 in improvements to the street car service, including new cars, lines, conduits, etc.

**Matamoras, Mexico.**—A syndicate composed of E. Scott, R. Brookings, W. H. Bixby, T. West, S. Fordyce and H. Hartick, of St. Louis, Mo., which recently purchased the Matamoras & Santa Cruz Street Railway, is making preparations to reconstruct the line.

## BRIDGES

**Little Rock, Ark.**—Seven new bridges, all of concrete, are to be erected at street crossings of Swagerty branch, at a cost to the city of \$5,000; they will be across the branch at Nineteenth, Twenty-first, Twenty-second, Twenty-third, Twenty-fourth, Twenty-fifth, and Twenty-eighth streets; the grides are to be erected according to plans and specifications prepared by the Superintendent of Public Works, and the contract will be let to the lowest bidder.—Address Alderman A. L. Smith.

**Rathdrum, Ida.**—The Kootenai County Commissioners will ask for bids for the construction of the combination bridge and ferry to be built across the Pend d'Oreille River at Sandpoint, providing the city of Sandpoint contributes \$5,000 and the citizens across the river the same amount; the bridge will be approximately a mile long and will probably be built from the foot of First avenue, connecting with the old N. P. grade on the opposite side, although this has not been definitely decided.—Address County Auditor.

**Chicago, Ill.**—Bridge Engineer T. H. Pihlfeldt, 326 City Hall, is preparing plans for a reinforced concrete bridge over the Illinois & Michigan canal, at Western avenue, for the Department of Public Works; approximate cost, \$22,000; also for rebuilding the Erie street bridge for the Department of Public Works; work will consist of rebuilding center piers and reinforcing of bottom chords; approximate cost, \$15,000; work will be done by the department's own forces.

**Cedar Rapids, Ia.**—The city contemplates erecting a reinforced concrete bridge, on Sixteenth avenue.—T. R. Warriner, City Engineer.

**Hutchinson, Kan.**—Engineer T. G. Elbury is preparing plans for a steel bridge, with concrete abutments, at Fifth street; cost, \$1,000.—Ed. Metz, City Clerk.

**Independence, Kan.**—Montgomery County is having plans prepared for a 300-foot span steel bridge.—E. H. Stewart, County Clerk.

**Manhattan, Kan.**—The Board of Commissioners of Riley County, at their regular meeting, April 9, will consider the matter of making an appropriation for the construction of the following bridges: A concrete arch bridge, estimated cost \$500; a stone or concrete arch bridge, \$400; a stone or concrete arch bridge, \$1,000; a stone or concrete arch bridge, \$400; a stone or concrete arch bridge, \$1,000; a stone arch bridge, \$700.—Geo. H. Hungerford, County Clerk.

**Wichita, Kan.**—Council has approved plans for the construction of a reinforced concrete bridge, at East Douglas avenue; cost \$120,000.—R. N. Dorr, City Clerk.

**Winfield, Kan.**—Cowley County is having plans prepared for four reinforced concrete bridges, one to cost approximately \$20,000 and another \$6,000, one pile bridge and three stone bridges; approximate cost, \$34,000.—A. H. Abrams, County Clerk.

**Benton Harbor, Mich.**—The Joint Bridge Committee of the cities of St. Joseph and Benton Harbor will advertise for new bids for the construction of a steel bridge over the St. Joseph River; plans, etc., can be obtained of City Clerk, St. Joseph, and of City Clerk and J. W. Pearl, Engineer, Benton Harbor, upon a deposit of \$5.

**St. Peters, Minn.**—The Nicollet County Board has voted an appropriation of \$2,000 to aid in the construction of a new bridge across the Minnesota River at North Mankato; the estimated cost of the span is \$24,000, and nearly the entire amount is pledged.—Address County Auditor.

**Broken Bow, Neb.**—Engineer G. W. Bates has completed plans for erection of a bridge across the Loup River at Sargent; the plans

contemplate the erection of a bridge of two 110-foot spans.

**Riverhead, L. I., N. Y.**—The Suffolk County Supervisors have voted to bond the county for \$30,000 to pay for new steel highway bridge over the Shinnecock Canal.—Address County Auditor.

**Cincinnati, O.**—Indorsement of the bill providing for the lowering of bridges on the canal east of Plum street and the improvement by the city of the canal banks, has been given by the Board of Public Service, which adopted resolutions and ordered them laidlaw.

The Board of Public Service has directed plans to be prepared for a new bridge at Eighth street, over the C. H. & D. Ry.—Address City Engineer Sundmaker.

**Springfield, O.**—Ordinances declaring it necessary to improve the Limestone street and Wittenberg avenue bridges were passed under suspension of the rules, and the Board of Public Service was authorized to ask for bids and contract for the work, these sums being appropriated: Limestone street bridge, \$1,417.80; Wittenberg avenue bridge, \$1,582.86. Council has under consideration the construction of a bridge at Nelson street.

**Norristown, Pa.**—The County Commissioners have decided to erect a one-arch stone bridge on Greenwood avenue, Cheltenham; the structure will span Hewitt's run; proposals for its erection will be asked at once.

**Reading, Pa.**—County Engineer Nevin M. Davis is completing plans for the county bridge which will be built by the County Commissioners across the Schuylkill at Dauberville, enabling the residents of Center township and Bern to reach the Pottsville pike without driving first to West Leesport or Mohrsville.

**Winnipeg, Man., Can.**—Plans have been prepared for a steel bridge to be erected across the Red River, at a cost of \$112,000.—H. N. Ruttan, City Engineer.

## MISCELLANEOUS

**Jacksonville, Fla.**—County Engineer Barnard has been instructed to advertise for 5,000 cubic feet of oyster shell, to be used in road surfacing, to be delivered along the shore of the St. John's river, near Goodbys Lake.

**Atlanta, Ga.**—E. D. White, City Clerk, will open bids for the purchase of \$65,000 of fire, water, light, school and park improvement bonds, April 16.

**Dublin, Ga.**—Bids for the purchase of fire, water, light, school, park and improvement bonds, to the amount of \$65,000, interest 5 per cent. per annum, payable semi-annually, will be received for any amount or all of said issue of bonds April 16, noon.—G. H. Williams, Chairman; W. C. Davis; City Attorney; E. D. White, Jr., Clerk.

**Monroe, Mich.**—Engineers have made a report in their investigation in regard to preventing the floods in the city from the river overflowing; they recommended walls 16 feet high on both sides of the river for a short distance in the vicinity of the Lake Shore bridge; the walls would cost \$300,000.

**Traverse City, Mich.**—The question of issuing \$16,000 park bonds will be submitted to a vote of the people.

**Lincoln, Neb.**—Bids will be received April 13 for the purchase of \$47,000 one to ten year 5 per cent. city improvement bonds.—Thomas H. Pratt, Clerk.

**Cincinnati, O.**—Bids will be received April 20 for the purchase of \$50,000 4 per cent. 40 year park bonds.—Ernest Von Barger, Auditor.

**East Cleveland, O.**—Bids will be received April 11 for the purchase of \$12,600 5 per cent. village improvement bonds.—K. T. Leet, Village Clerk, 326 Williamson Building, Cleveland.

**Fremont, O.**—Council has passed order directing the City Solicitor to prepare the necessary legislation providing for the removal of all telephone, telegraph and electric light wires within the business district of the city and have them placed underground.

**Springfield, O.**—The Board of Health has been asked to construct a garbage disposal plant at an estimated cost of about \$20,000.

**Altoona, Pa.**—The Board of Public Works will shortly take up City Engineer Engstrom's plan to let the street cleaning by contract; this will in all probability be tried this summer.

**New Castle, Pa.**—The city plans for a new City Hall, a \$400,000 high school, sewage disposal plant, hundreds of thousands dollars' worth of sewers and miles of new paved streets.

**Fort Worth, Tex.**—A special election will be held May 2 to decide the question of issuing bonds for city improvement purposes.—W. D. Harris, Mayor.

**Galveston, Tex.**—The Galveston Terminal Company proposes to issue \$5,000,000 6 per cent. bonds, to be used in improving the terminal.

## BIDS RECEIVED

**Florence, Ala.**—The contract for the balance of the excavation at Colbert Shoals on the Tennessee river, has been awarded the Northern Alabama Excavation Company, and W. A. Shippy of Memphis, Tenn., over about 40 competitors, among whom was W. J. Oliver of Knoxville, the Panama canal bidder. The bid of the Alabama company was \$26.90 per cubic yard, 1 1/2 cents higher than that of Mr. Oliver. The contract calls for the removal of about 1,000,000 cubic yards of dirt and will require about two years. It amounts in round figures to about \$250,000.

**Montgomery, Ala.**—The County Commissioners have awarded contracts as follows for 22 miles of road construction: D. R. Cook, city, for grading and graveling ten miles on Pine Level road; Mitchell Bros., city, for grading and graveling three miles on Huffman road; A. T. Newell, Birmingham, for nine miles on Mobile road.

**Pine Bluff, Ark.**—The William P. Carmichael Co. of St. Louis, Mo., has been awarded the contract for constructing a reinforced concrete reservoir in Pine Bluff for the Equitable Securities Co., New York.—Ford, Bacon & Davis, Engrs.-in-Charge.

**Oakland, Cal.**—Bids were received by the Board of Public Works as follows for the pumping machinery to be used at Lake Merritt for an auxiliary salt water pumping station: D'Olier Engineering Company, Philadelphia, Pa., \$22,745; Corliss Engine Company, Corliss, Wis., \$36,600; Joshua Hendy Iron Works, \$39,475; Union Engine Company, \$45,000; Fairbanks, Morse & Company, \$27,990; Atlas Engine Company, \$39,750; Doak Engine Company, \$28,971; United Iron Works, \$35,000; N. Junior & Company, \$55,775.—F. C. Turner, City Engineer.

**Empire, Col.**—State Engineer T. W. Jaycox, Denver, has let contract to Donal Maxwell, Georgetown, at \$1,400, for the complete construction of a reinforced concrete bridge, with 30-foot span, across South Clear Creek.

**Sterling, Col.**—The contract for the construction of the sewer system 9 1/2 miles long, was awarded to C. G. Sheeley, Denver, at \$46,000.

**Stamford, Conn.**—H. Wales Lines Company, of Meriden, are the successful bidders for the erection of the West Stamford School building.—J. G. Houghton, First Selectman.

**Washington, D. C.**—The United States Government has awarded to N. Snellenburg & Company, Philadelphia, the largest furniture contract ever awarded to any one firm. The contract is for furnishing the officers' quarters in all the army posts in the United States. It calls for 23,742 pieces of mahogany furniture, and amounts to \$225,000. Bids were put in by all the prominent dealers and manufacturers in the country.

**Augusta, Ga.**—T. G. McAuliffe & Bro. were awarded the contract for the construction of pipe sewers, which may be ordered by the city council during 1908; approximate cost \$10,000.

W. F. Bowe, city, was awarded the contract for constructing cement sidewalks, stone curbing, etc., during the year 1908.—Nisbet Wingfield, City Engineer and Commissioner of Public Works.

**Jacksonville, Fla.**—To Foster & Long the Board of County Commissioners have awarded the contract for paving the Turner road from Moncrief creek to Trout creek, with rock, the road to be paved being three miles long and twelve feet wide. Three bids were submitted. Foster & Long, W. W. Cleveland, and Burwell & Hillyer. Bids were submitted for paving the road with rock, and with oyster shell, each to be made separately. The bids submitted follow: Foster & Long, 88 cents for rock and 78 cents for oyster shell; W. W. Cleveland, 93 cents per square yard for oyster shell, or for 12 1/2 per cent of the total cost of the road; Burwell & Hillyer, \$1.35 for rock and 87 1/2 cents for oyster shell. The contract calls for grading and curbing, as well as for surfacing.

**Joliet, Ill.**—The Board of Local Improvements, William S. Welch, Clerk, has awarded contract to the Metropolitan Engineering and Construction Company, contract for constructing asphalt pavement on Campbell street at \$13,406.50, as follows: 7,350 sq. yds. asphalt paving, inclusive of six inches of concrete foundation, grading and binder; \$2.10 per sq. yd.; 4,020 lin. ft. curbing, including all excavation, cinders and backfilling, in place complete, fifty cents per lin. foot; 1,550 cu. yds. excavation, 45 cents per cu. yd.; 4,080 ft. farm drain tile, laid complete, 5 cents per lin. ft.; two new valve manholes complete, \$30 each.

A number of bids were submitted for the First ward sewer system and the Liberty street water main. C. R. Spears submitted a bid to construct the sewer system for \$28,280.45, and the Liberty street water main for \$2,835.55; the bid of the Ross & Curtis Stone Company was \$26,792.60 for the sewer system and \$2,653.60 for the water main; Monahan Brothers, \$30,989 for sewer system and \$3,115.50 for water main; William Moran did not give total estimates. Ross & Curtis Stone Company secured both contracts.

**Gary, Ind.**—The Gary Construction Company was awarded the contract, at \$12,408.25, for paving Fifteenth avenue, \$40,994.30 for Jefferson street and \$13,851.58 for Massachusetts street.

**Indianapolis, Ind.**—Following contracts have been awarded for constructing sewers: in first alley south of Wyoming street, to William Yates & Company, at \$1.33 per ft.; in first alley north of Thirty-third street to John Jenkins, at \$1.67 1/2 per ft.—Blaine H. Miller, City Engineer.

**Michigan City, Ind.**—The Board of Public Works has granted to W. H. Bell, city, four street paving contracts: Michigan, from Wabash to Fourth streets, 10,400 sq. yds.; Sixth, from Wabash to Canal streets; Washington from Ripley to Barker avenue; Ripley from Franklin to Ohio streets; Mr. Bell was one of seven bidders; Michigan, Sixth and Washington streets will be paved with Townsend block and Ripley street will be paved with Poston block. Contractor Bell's figures follow: Michigan street: Townsend block, 10,400 sq. yds. at \$1.48 1/2 per square yard; combined curb and gutter, 2,600 lineal feet; at 52 cents; curb without gutter, 1,800 lineal feet, 34 cents; gutter without curb, 140 lineal feet, 34 cents; stone headers, 250 lin. ft., 25 cents; grading, 4,900 cu. yds., 23 cents.

Sixth street: Townsend block, 6,900 sq. yds., \$1.51 per sq. yd.; combined curb and gutter, 3,400 lin. ft., 52 cents; curb without gutter, 650 lin. ft., 33 cents; gutter without curb, 140 lin. ft., 33 cents; grading, 2,900 cu. yds., 23 cents; stone headers, per lin. ft., 305 lin. ft., 25 cents.

Washington street: Townsend block, 4,200 sq. yds., \$1.51 per sq. yd.; combined curb and gutter, 1,540 lin. ft., 49 cents; curb without gutter, 760 lin. ft., 29 cents; gutter without curb, 120 lin. ft., 29 cents; stone headers, 240 lin. ft., 25 cents; grading, 1,700 cu. yds., 18 cents.

Ripley street: Poston block, 5,425 sq. yds., \$1.49 per square yard; combined curb and gutter, 3,140 lin. ft., 52 cents; curb without gutter, 940 lin. ft., 33 cents; gutter without curb, 100 lin. ft., 33 cents; stone headers, 290 lin. ft., 25 cents; grading, 5,000 cu. yds., 18 cents.

The total bids on the four streets follow, being given in the order as above: W. H. Bell, \$18,645.10; \$13,190.95; \$7,717.80; \$11,081.75. G. W. Palmer & Co., \$19,386.20; no bid; \$8,730; \$12,829.50; Hines & Bowlin, \$20,434.80; \$14,096.80; \$9,124.60; \$12,961.05. W. B. Hutchinson, Jr., \$19,783.85; \$13,710.85; \$8,608.35; \$12,276.58; C. H. Defrees, \$9,698; \$13,405.50; \$8,109; \$11,674. Michaels & Minich, no price; \$13,278.30; \$8,170.60; \$12,658.55. Peter Michael bid \$8,816.60 on the Washington street job.

**Peru, Ind.**—Contracts for constructing bridges and arches were let to the Rochester Bridge & Iron Company, Rochester, Ind.; Elkhart Bridge & Iron Co., Elkhart, Ind.; Luther Kesling, Peru, and Michael Burke, Peru.—Charles Griswold, Auditor Miami County.

**Terre Haute, Ind.**—Architect W. H. Floyd has let steam heat and plumbing contract to Prox & Burgett for a three-story jail and Sheriff's residence for Vigo County at \$125,000.

**Winchester, Ind.**—Trippier & Son, Peru, have been awarded contract for 17,302 sq. yds. brick pavement in 5-in. 1:1:4 concrete, and 11,415 cu. yds. excavation, at \$39,435, including cement curb and gutter throughout, at 56 cents, included in total; other bids were John Gubbins, Muncie, \$41,014; Moorman & Goodrich, city, \$42,588; Moeller Construction Company, Ft. Wayne, \$41,182; J. P. Knight, Greenfield, \$46,339.—R. H. Crandall, City Engineer.

**Atlantic, Ia.**—Katz-Craig Company were awarded the contract, at \$2,194.50, for relaying of the suction pipes and well connections of the water works.—T. E. Nichols, City Clerk; Jas. L. Darnell, Engineer, Kansas City, Mo.

**Ft. Des Moines, Ia.**—The Standard Electric Co., Omaha, Neb., has the heating contract for two double lieutenants' quarters.

**Davenport, Ia.**—The McCarthy Improvement Company has been awarded the contract for paving Howell street with brick at \$13,179.

**Independence, Kan.**—E. P. Delone & Company were awarded the contract for paving Sycamore street, from Ninth street to the city limits, and Ninth street from Main to Railroad streets, 17 blocks, with brick, asphalt filler, at \$57,000.

**Winfield, Kan.**—The Municipal Construction Company, Kansas City, Mo., has the contract for vitrified pipe sewers Nos. 4 and 5, for Winfield, \$10,000.—D. M. Guthrie, City Clerk.

**Ashland, Ky.**—Council has decided to use Carlisle brick in a paving contract aggregating \$23,000; while the contract has not been awarded, Kelly Brothers of Portsmouth will likely get the contract.

**Covington, Ky.**—Edward McCanna and Daniel Trapp have been awarded contracts for grading, curbing and brick paving on half a dozen streets.

**New Orleans, La.**—The Newcomb Realty Co., William E. Grunewald, President, has

awarded the contract to Calonge & Sargent, New Orleans, for paving in front of ten squares of their property.

**Port Huron, La.**—L. F. Hart, Baton Rouge, was awarded the contract for repairing roadway, bridge and culvert leading to National Cemetery, at Port Hudson.—Arthur Cranston, Captain, Q. M., New Orleans.

**Fitchburg, Mass.**—Contract for constructing a granite arch bridge, at Depot street, was let to F. A. McCauliff, city.—David A. Hartwell, City Engineer.

**Holyoke, Mass.**—William H. Snow, Manager of the Municipal Gas and Electric Lighting Department, has awarded the contract for an addition to the electric light plant to Casper Ranger for \$41,000; the bid was slightly lower than those submitted by Lynch Bros. and D. O'Connell & Sons. According to the specifications, the boiler house is to be raised 13 feet and an addition 70 by 60 feet and 40 feet high is to be erected. A new engine room for dynamos and turbine engines will be erected also.

The Board of Public Works has awarded the contract for collecting garbage for three years to Ernest E. Proulx. The bids were as follows: Ernest E. Proulx, \$4,890; James T. Griffin, \$6,000; William Wilhelm, \$5,976; Jeremiah J. Bynan, \$6,000; George Archambault, \$5,910; Octave Bergeron, \$5,099.77. The contract for furnishing pitch to be used on the sidewalks was awarded to Samuel Cabot for \$14.20 per ton, free on board, Holyoke. The contract for 50 or more "Alert" fire extinguishers was granted to J. Russell & Company, f. o. b. Holyoke, at \$7 each.

The Merrick Lumber Company was given the contract for 150,000 feet of planks to be used in replanking the Holyoke end of the county bridge at \$21.75 per thousand feet.

The car street sprinkling award was given to the American Car Sprinkling Company of Worcester for \$550 a month, the same firm and price as last year.

**Baltimore, Md.**—The contract for furnishing vitrified paving block (Mack) to City Engineer's Department for 1908 has been awarded to William W. Clarke & Son, 546 East Monument St., Baltimore, at about \$4,500.—B. T. Fendall, City Engineer.

**Hudson, Mass.**—The Water Commissioners on March 18 awarded the contract for installing 1,000 meters to Tower Bros., at 89 9-10 cents each.

**Menominee, Mich.**—Gust. Johnson was the lowest bidder for paving with brick sundry streets.—F. S. Norcross, City Clerk.

**Niles, Mich.**—The Board of Public Works has let contracts for constructing sewers to John H. Algat, at \$4,990, and C. H. Deffrees, at \$3,163.97.—Carl F. Whitstone, Clerk.

**Springfield, Mass.**—Charles R. Gow Company, Boston, has been awarded contract for the construction of a sedimentation basin, six covered masonry filters, buildings and appurtenances. The details of the bid follow: 10 acres grubbing at \$150; 66,000 cu. yds. general excavation, at 35 cents; 3,700 cu. yds. trench excavation, at 75 cents; 700 cu. yds. rock excavation, at \$1.50; 16,500 cu. yds. borrowed excavation, at 70 cents; 56,000 cu. yds. rolled embankment, at 16 cents; 5,000 cu. yds. rock fill, at 50 cents; 3,000 sq. yds. paving, at \$1; 23,000 cu. yds. general fill, at 22 cents; 2,000 sq. yds. sodding, at 50 cents; 7 acres seeding, at \$50; 150 cu. yds. rubble masonry, at \$3; 975 cu. yds. concrete with reinforcing, at \$8; 3,650 cu. yds. concrete in piers and vaulting, at \$8; 8,000 cu. yds. all other concrete, at \$5.50; 50,000 pounds steel reinforcing, at 3 cents; 4,000 cu. yds. filter gravel, at \$1.25; 15,000 cu. yds. filter sand, at \$1; outside drains \$2,000; central drain, \$3,500; split tile drains, \$2,500; 43 tons placing steel pipe, at \$10; 300 tons placing cast iron pipe and gates, at \$12; sand washers and piping, \$5,000; office and laboratory, \$11,000; regulator house, \$4,200; three filter entrances, \$3,000; appurtenances, \$2,500. The totals of all bids submitted follow: (A) without 4,000 cu. yds. filter gravel and 15,000 cu. yds. filter sand, (B) including filter gravel and sand, (C) without filter sand; Charles R. Gow Company, 79 Milk street, Boston, Mass., (A) \$181,525; (B) \$201,525 (awarded contract); Coleman Bros., 15 Court Square, Boston, (A) \$186,341, (B) \$213,341; Hugh Nawn Contracting Company, 82 Savin street, Boston, (A) \$209,200, (B) \$234,850; Fred T. Ley & Company, Inc., Springfield, (A) \$211,023, (C) \$216,023; Piereson Engineering & Construction Company, Bristol, Conn., and Sperry & Sellers Company, New Haven, Conn., (A) \$212,215; The G. H. Fath & Son Construction Company, Cleveland, Ohio, (A) \$217,167; Newell & Snowling Construction Company, Uxbridge, Mass., (A) \$220,644; (B) \$247,804; Long, Little & Company, Loomis, Mass., (A) \$222,136, (B) \$249,686; T. Stewart Son Company, Newton, Mass., (A) \$224,122; Loring N. Farman Co., 40 Exchange Bldg., Boston Mass., (A) \$224,361; Beckwith & Moynihan, Herkimer, N. Y., (A) \$231,995, (B) \$264,995; Charles N. Taylor, Wellesley, Mass., (A) \$243,204; John Donohue, Springfield, (A) \$250,590; Bruno & Petitti, Boston, Mass., (A) \$253,742, (B) \$289,742; Holbrook, Cabot & Rollins Corporation, 6 Beacon

street, Boston, (A) \$255,080, (B) \$289,280; The New York Continental Jewell Filtration Company, 15 Broad street, New York, (A) \$257,602, (B) \$293,752; Spuyten Duyvil Construction Company, New York, (A) \$267,737. E. E. Lochridge is Chief Engineer of the Board. Itemized prices are given this week under Contract Prices.

**Wellesley, Mass.**—The contract for furnishing pipe has been awarded by the city to Charles Millar & Son Company at \$10,700; for hydrants, to the Chapman Valve Manufacturing Company, and for gate-valves, to the Ludlow Valve Manufacturing Company. C. W. Taylor is Contracting Engineer.

**Duluth, Minn.**—The following bids were received for a trunk sanitary sewer in Elinor street and Forty-ninth avenue, west from Central avenue to St. Louis Bay: George R. King, Duluth, \$14,116.40; E. Engle, Duluth, \$17,718; J. A. Johnson, Duluth, \$15,264.50; Hugh Steele, Duluth, \$13,653.50; Pastoret and Sunz, Duluth, \$14,893; P. H. McDonnell, Duluth, \$15,477. The quantities were: 950 feet cast iron pipe; 1,640 feet 26-inch concrete sewer; 630 feet 18-inch vitrified pipe; 400 feet 15-inch vitrified pipe.

**Minneapolis, Minn.**—The Kettle River Quarries Company, city, was low bidder for furnishing 50,000 sq. yds. 4-inch creosoted wood paving blocks f. o. b. Minneapolis, at \$1.39 per sq. yd., while the Republic Creosoting Company, city, bid \$1.44.—Andrew Rinker, City Engineer.

**Vicksburg, Miss.**—H. F. Garlish has the contract, at \$9,750, for repairing roadway leading to National Cemetery.

**Chillicothe, Mo.**—J. E. Meek has the contract for 1 1/2 miles of brick paving.—H. I. Spence, City Clerk.

**Jefferson Barracks, Mo.**—The bid of E. H. Abadee & Company, St. Louis, for the construction of water and sewerage system, has been recommended to the quartermaster-general for acceptance. The bid was \$5,494.—O. W. Bell, Q. M., U. S. A.

**Jefferson Barracks, Mo.**—E. H. Abadee & Company, St. Louis, will probably receive the contract for the sewer system, at Jefferson Barracks. See Water Works.

**St. Louis, Mo.**—Board of Public Improvements has let contracts for improvement of approximately six miles of streets as follows: Victor street, brick, Fruin & Colnon, Lacled Building, St. Louis, Mo., \$13,522; De Soto avenue, James T. McMahon, \$8,296; 20th street, James T. McMahon, \$17,957; Shaw avenue, Parker Washington Company, 4,500 Duncan street, St. Louis, \$17,576; Grand avenue, Ruecking Construction Company, Marine avenue, and Gasconade street, St. Louis, \$19,062; Nebraska avenue, Fruin & Colnon, \$31,180; Michigan avenue, Ruecking Construction Company, \$5,775; Minnesota avenue, Hoffman-Hogan Construction Company, 2712 Wyandotte street, St. Louis, \$16,321; Texas avenue, Skrainka Construction Company, \$3,885; Spring avenue, Ruecking Construction Company, \$16,224; Lucky street, Skrainka Construction Company, Security Building, St. Louis, \$11,954; Gasconde street, Hoffman-Hogan Construction Company, \$9,571; Taylor avenue, Gustavus A. Heman, \$21,816; Compton avenue, Ruecking Construction Company, \$10,904; Cora avenue, Hanick Quarry & Construction Company, \$9,893; Krum avenue, Skrainka Construction Company, \$3,475; Montana street, Ruecking Construction Company, \$7,954; North Market street, brick, Gustavus A. Heman, \$28,845; Spring avenue, Fruin-Bambrick Construction Company, Chemical Building, St. Louis, \$13,234; Monroe street, granite, James T. McMahon, \$4,218; Victor street, Schneider Granite Company, \$30,376; Bremen avenue, G. Eyermann & Bro., 1216 South Grand avenue, St. Louis, \$8,337; La Salle street, G. Eyermann & Bro., granite, \$6,232; Westminster street, Parker Washington Company, wood blocks, \$16,071.

**St. Charles, Mo.**—Contract for curbing and gutter was awarded to F. Bull, J. F. Ueberle & Son at 53 cents per linear foot, the quantity being 12,882.3 feet. Other bids were F. F. Hoffman, St. Louis, Mo., \$9,017.61; Sheehan, Kingsley & Company, St. Louis, \$8,051.43; Joseph Pope, Jefferson City, Mo., \$8,759.96; Adam Heckman, St. Charles, \$7,987.03; Gilsonite Construction Company, St. Louis, \$8,244.67; C. F. Schilling, St. Louis, \$9,919.37; McCormick-Combs-Brainerd Construction Company, St. Louis, \$7,987.03; J. F. Fehlig, St. Louis, \$7,471.73. The contract for sidewalks was awarded to F. Bull, J. F. Ueberle & Son, at 14 cents a foot for 57,396.7 square feet; specifications being 1:3 concrete; 4-inches thick on 8 inches of cinders. Other bids were F. F. Hoffman, St. Louis, \$8,609.50; Sheehan, Kingsley & Co., St. Louis, \$9,183.97; Joseph Pope, Jefferson City, \$9,326.96; Adam Heckman, St. Charles, \$8,322.52; Gilsonite Construction Company, St. Louis, \$7,174.58; C. F. Schilling, St. Louis, \$8,322.52; McCormick-Combs-Brainerd Construction Company, St. Louis, \$8,035.53; J. F. Fehlig, St. Louis, \$7,892.05.

Architect Jas. A. Smith let general contract to the McCully Construction Company for a three-story police station for the Board of Police Commissioners; cost, \$50,000.

**Freehold, N. J.**—Contract for constructing a gravel road was let to Richard Hapeman, Farmingdale, N. J., and Thomas Ivo, Freehold, secured the contract for a stone road.—Geo. W. Patterson, Jr., Clerk Board of Chosen Freeholders.

**Mendham, N. J.**—The borough has awarded the contract to Frederic W. Smith, Morristown, for constructing waterworks.—Leo Robinson, Borough Clerk.

**Newark, N. J.**—The contract for repairing streets paved with asphalt was awarded on March 26 by the Board Public Works to the Standard Bitulithic Company, 422 Union Bldg., Newark, at \$24,850.

**Orange, N. J.**—Bids for removing and disposing of the city garbage, ashes and refuse were received from three contractors. Frank A. Moloney, the present scavenger, was low man; he bid \$57,500 on the three-year term and \$104,500 on the five-year proposal. Michael Loprete of East Orange bid \$61,750 for three years and \$107,750 for five years. Gustave C. Pfeiffer of Newark presented a tender of \$66,900 for three years and \$117,000 for five years. The bids were referred to the Public Health Committee. The new contract dates from June 15 next.

**Trenton, N. J.**—Contracts for road work were awarded as follows: C. B. Walton Company, Trenton, Brunswick pike, \$34,261.66, and Elm street and Rosedale, \$27,554.18; Harry Scott, Etna and Pennsville, \$9,143.48.

**Buffalo, N. Y.**—Architect Robt. A. Wallace let general contract to the Buffalo General Building Company for a water tower for the Board of Public Works.

John Miller, 802 Ellicott street, was low bidder, at \$17,467, for a 42-inch brick and a 39-inch iron pipe sewer from northeast side of Potters road and across Cazenovia park to about 900 feet southeast of Abbott road. Geo. C. Waite, 85 Parkside avenue, was low bidder for a 15-inch tile sewer, in Cambridge avenue, between Ferry street and Scajaquada creek.—Francis G. Ward, Commissioner of Public Works.

**Madison Barracks, N. Y.**—The Chicago Bridge & Iron Works, Chicago, Ill., has the contract, at \$19,094, for the construction of a 200,000-gallon steel tank and trestle.

**Rochester, N. Y.**—After a sharp argument between Attorney Horace McGuire, representing the Hersey Manufacturing Company, and Mayor Edgerton, sitting with the Board of Contract and Supply, the contract for meters was awarded to the Thomson Meter Company of Brooklyn at \$6.35 each; the contract is for a minimum of 3,000 meters and the Board has the privilege of purchasing 6,000; the Hersey Company bid \$6.30 per meter for a supply of 6,000, \$6.55 for a contract for 5,000, \$6.72 for 4,000; for smaller lots the increase in price corresponded in proportion. The Board declared the Hersey bid informal in that the bid of \$6.30 was only on the contract for 6,000 meters, and that the specifications called for 3,000 meters, with the privilege of purchasing 3,000 more. The National and Neptune firms bid \$8.40.

When the bids were first received the specifications were drawn with the idea of limiting the bidders to the Hersey and National Companies. The Thomson Company, however, made a bid of \$6.75, as opposed to bids of \$8.40 made by the National and Hersey Companies; all of the bids were rejected and the contract was readvertised, and four companies allowed to compete.

Bids were received for sweeping and cleaning far below the estimated cost of the work; on some of the contracts the bids were 55 per cent. of the estimate; the bidding was in twelve groups of streets, to which was added miscellaneous streets. They were referred to City Engineer M. Fisher for tabulation.

Lewis Y. McConnell submitted low figures on Rohr street sewer, his bid being \$3,386; also on Shafer street walks, with a bid of \$448.25. Harry Holder is low on Stokes street sewer at \$3,002.50, and on Dean street walks, with a bid of \$75.25.

**Troy, N. Y.**—The Board of Contract and Supply received bids for street sprinkling and machine sweeping, and also proposals for the dismantling of the pumping station in the North End; the bids for the latter work follow: Sutherland & Kelly, twelve cents per hundred; Michael Fitzgerald, Hoosick Falls, seventeen and two-tenths cents per hundred; McDonough Construction Company, fifteen and one-half cents per hundred; Thomas Slavin & Son, \$2 per ton; Herman Samansky, forty-five cents per hundred pounds; John Flynn, Jr., twelve and three-quarter cents per hundred; Security Steel and Iron Company, twenty-three and one-half cents per hundred; United States Metal and Manufacturing Company, twenty-five cents per hundred; P. O. Hagen, \$8.15 per ton.

Proposals for furnishing a team and driver for the operation of the street sweeping machines were received from the following: Charles W. Barnes, George Mack, Daniel McWhinnie, John H. Moon, John W. Peck, A. Van Valkenburgh, John H. Steiner, Henry A. Kreiss, Samuel Jordan, George A. Brockaway, George E. Wilstie, Joseph Eso-

posito, Michael Keefe, Wm. F. Bell, Wm. Bean, Joseph B. Nial, William Fitzsimmons, George H. Atkins, Alexander Degrosa, George J. Soim, Joseph Moss, A. F. Murphy, Sarah A. Dickson, Thomas J. Stapleton, Patrick McCarthy, James Doran, Patrick Dorr, John J. Stapleton, Edward J. Peartree, Morris Ledger and Robert Glass.

The following presented bids for the operation of street sprinklers: Charles W. Barnes, Patrick S. Fitzgerald, John T. O'Neil, John A. Foy, Patrick McCarthy, Edward Hasbrouck, Charles H. Winnie, Edward F. Hall, Frank Whelan, William H. Huyck, Robert W. Ritchie, Thomas H. Waite, H. J. Dillenbeck, H. E. Bartlett, George A. Ruth, Frank M. Wheeler, William Ott, John J. McCabe, James P. Williams, Benjamin Wood, Herrick Clum, B. O. Brewster, Michael Keefe, Joseph Esposito, Joseph Moss, Frank Lewis, D. J. Neary, Nicholas J. Halligan, Fred L. Blackhall, William J. Sharp, S. Peterson, D. Stagolino, John Moon, John B. Stapleton, John Staley, John Wensell, D. L. Herrington, E. W. Holdridge, George A. Brockaway, M. E. Sibley, E. D. Fitzgerald and Arthur F. Murphy. All bids were sent to the Commissioner of Public Works for examination.

**Rome, N. Y.**—The lowest bid for the construction of the dam, reservoir, gatehouse, tunnel and aqueduct for the Fish Creek water supply for the city was submitted by the Carey Construction Company, Rome, at \$214,618.

**Schenectady, N. Y.**—C. W. Hollister, of this city, was low bidder for installing a drainage system at the State Armory.—F. A. McNeely, Secretary State Board of Armory Commissioners, Albany.

**Lamoure, N. D.**—Contract for erecting basement for the new court house was let to Tom Powers, Fargo, for \$9,524; also contract, at \$2,804, for the erection of a jail for Lamoure County.—E. W. Field, County Auditor; Buechner & Orth, Architects, St. Paul, Minn.

**Jackson, O.**—The contract for the construction of the city's new sewerage system was awarded to the J. A. Grimes Engineering Company of Portsmouth, at \$12,377.50, including materials and construction; seventeen contracting companies bid on the work.

**Lorraine, O.**—The following bids were received by the County Commissioners on contract for super-structure of bridge near Loramie: Single span bridge, as per plans on file: The Bellefontaine Bridge & Steel Company, \$6,000; Wynkop and McCormley, \$5,100; the Brookville Bridge Company (brick paved), \$4,264; (concrete floor), \$4,118; Central States Bridge Company, \$4,913.

Double span bridge, as per plans on file: The Bellefontaine Bridge & Steel Company, \$5,000; Wynkop and McCormley, \$4,300; the Brookville Bridge Company, brick paved, \$3,774; concrete floor, \$3,605; Central States Bridge Company, \$3,948; the Cleveland Bridge Company, \$4,348.

Bids on plans submitted: Cleveland Bridge Company, double span, brick, \$3,974; concrete, \$3,474; single span, brick, \$5,288; concrete, \$4,798; Bellefontaine Bridge and Steel Company, single span, \$4,300; Wynkop & McCormley, double span, creosote block, \$2,948; concrete, \$2,997; single span, creosote block, \$3,300; concrete, \$3,254; the Brookville Bridge Company, single span, brick, \$3,439; concrete, \$3,279 (accepted); buckle plate brick, \$4,137; double span, brick, \$3,194; concrete, \$3,034; buckle plate, brick, \$3,807; Central States Bridge Company, single span, \$3,921; double span, \$2,980.

**Oakley, O.**—Contract for the construction of a sewer on Gilmore avenue was let to Louis C. Ernert, Newport, Ky., for \$1,016.90.—E. C. Burkhardt, Village Clerk; W. E. Sullivan, Civil Engineer.

**Youngstown, O.**—James McCarron was given the contract for paving Marshall street with brick at his bid of \$9,486.40; S. H. De Groot was the low bidder for this contract with a bid of \$9,322.30, but the Directors considered the number of contracts he has on hand. Anthony O'Horo was low bidder for the Summit avenue brick pavement, but the contract went to Victor Olson at his bid of \$7,727.98; the difference in the bids was not great and O'Horo already has sewer contracts enough to keep him busy for a long time, possibly all summer.

**Ardmore, Pa.**—Architects Furness, Evans & Co., Philadelphia, let contract to Frank Mahan, city, for a three-story fire house for the Merion Fire Company.

**Cedarburg, Wis.**—Contracts were let for the erection of a fire engine house, as follows: Masonry, John Voilmar, \$4,668; carpenter work, Fred Liesenberg, \$3,150.—F. G. Schuette, City Clerk.

**Dunmore, Pa.**—Contract for the construction of Sec. "G" sewer was let to O'Boyle Brothers, of this borough.—L. S. Marsh, Borough Secretary.

**Lancaster, Pa.**—Frank Hinden has been awarded the contract for making a large sewer in the northern part of the city for the Lancaster Development Company. It will be 1,600 feet long, and will extend from Prince street to Jackson and thence to Mary street.

Cast iron pipes, (\*a), \$22.75; (c), \$22.75; (d), \$23.70; bell and spigot specials, (\*a), 3-8 cents; (c), 2 1-2 cents; (d), 2 1-2 cents; flange specials, (\*a), 3 1-2 cents; (c), 2 1-2 cents; (d), 4 1-4 cents; total, (\*a), \$38,470.97; (c), \$39,155.25; (d), \$40,804.70.

Gate Boxes.—Reading Scale and Machine Company, 2 5-8 cents lb.; total, \$1,312.50; \*Drummond Iron Wks., Ltd., 2 48-100 cents lb.; total, \$1,240.

Corporation Cocks.—\*The Hays Mfg. Co., per piece, 38 cents; total, \$136.80; H. Mueller Mfg. Co., 45 cents per piece; total, \$162; A. P. Smith Mfg. Co., 45 cents per piece, total, \$162.

Water Gates.—Six-inch, Rensselaer Mfg. Co., (a), \$11.85; Nelson Valve Co., (b), \$7.85; Eddy Valve Co., (c), \$11.00; Kennedy Valve Mfg. Co., \$10.50; \*The Darling Pump & Mfg. Co., \$11.00; The Fairbanks Co., (f), \$11.25; Drummond Iron Wks., Ltd., (g), \$10.15; 8-inch, (a), \$17.90; (b), \$14.39; (c), \$18.50; (d), \$17.20; (e), \$16.70; (f), \$17.25; (g), \$14.70; 10-inch, (a), \$25.50; (b), \$23.49; (c), \$23.75; (d), \$23.40; (\*e), \$23.00; (f), \$25.00; (g), \$20.75; 12-inch, (a), \$32.50; (b), \$32.64; (c), \$34.00; (d), \$32.40; (\*e), \$30.50; (f), \$32.50; (g), \$29; 16-inch: (a), \$60; (b), \$96.66; (c), \$78.75; (d), \$84; (e), \$78; (f), \$73.90; (g), \$52.40; 24-inch: (a), \$200; (b), \$186.25; (c), \$195; (d), \$240; (\*e), \$155; (f), \$200; (g), \$160; 30-inch: (a), \$310; (b), \$388.75; (c), \$350; (d), \$350; (\*e), \$280; (f), \$340; (g), \$275; 36-inch: (a), \$550; (b), \$518.50; (c), \$460; (d), \$490; (\*e), \$460; (f), \$550; (g), \$580; 10-inch flange: (a), \$26; (b), \$23.51; (c), \$25.50; (d), \$23.40; (\*e), \$23; (f), \$25; (g), \$23.50; 6-inch flange: (a), \$12.40; (b), \$7.86; (c), \$14; (d), \$10.50; (\*e), \$11; (f), \$11.25; (g), \$11. Totals: (a), \$5,549.80; (b), \$5,336.82; (c), \$5,236.50; (d), \$5,384.50; (\*e), \$4,899.20; (f), \$5,595.35; (g), \$5,152.30.

Bids for fire hydrants were laid over until next meeting of Board. Bituminous coal—(a) per gross ton, (b) total: Keystone Coal & Coke Company, (a) \$2.70, (b) \$67.50; Pennsylvania, Beech Creek and Eastern Coal Company, (a) \$2.75, (b) \$6,875; \*Reading Supply Company, (a) \$2.65, (b) \$6,625; Reading Coal Company, (a) \$2.67 1/2, (b) \$6,687.50; F. G. Patton, (a) \$2.68, (b) \$6,700.

Electric wiring: Reading Electric Company, \$650; Keystone Electric Company, \$723; W. E. Bridgeman, \$1,191.

Laying pipes: pipes delivered by city, lead and hemp furnished by city—(a) John E. Weidner, (b) Joseph A. Martin, (c) John A. Rauen; price per foot: 24-inch, 6-foot trench, (a) 45 cents, (b) 38 cents, (c) 35 cents; 20-inch, 5-foot 6-inch trench, (a) 42 cents, (b) 32 cents, (c) 34 cents; 16-inch, 5-foot 6-inch trench, (a) 35 cents (b) 30 cents, (c) 30 cents; 12-inch, 5-foot trench, (a) 28 cents, (b) 30 cents, (c) 25 cents; 10-inch, 4-foot 9-inch trench, (a) 26 cents, (b) 24 cents, (c) 22 cents; 8-inch, 4-foot 6-inch trench, (a) 21 cents, (b) 21 cents, (c) 20 cents; 6-inch, 4-foot 6-inch trench, (a) 19 cents, (b) 21 cents, (c) 20 cents. Setting each gate and box: 24-inch, (a) \$40, (b) \$20, (c) \$36; 20-inch, (a) \$40, (b) \$25, (c) \$35; 16-inch, (a) \$20, (b) \$16, (c) \$18; 12-inch, (a) \$5, (b) \$7, (c) 4; 10-inch, (a) \$5, (b) \$3.50, (c) \$4; 8-inch, (a) \$4, (b) \$3.50, (c) \$4; 6-inch, (a) \$4, (b) \$3.50, (c) \$4. Setting each fire hydrant: (a) \$4, (b) \$4, (c) \$4. Per cubic yard for: Solid rock, (a) \$2.50, (b) \$2.65, (c) \$2.70; loose rock, (a) \$1, (b) 25 cents, (c) 55 cents; extra excavation, (a) 40 cents, (b) 50 cents, (c) 58 cents; embankment, (a) 20 cents, (b) 20 cents, (c) 20 cents. Replacing street surfaces, per square yard: Macadam, (a) 30 cents, (b) 5 cents, (c) 5 cents; brick, (a) \$1.20, (b) 10 cents, (c) 70 cents; asphalt, (a) \$1.50, (b) 10 cents, (c) 70 cents; granite, (a) 40 cents, (b) 10 cents, (c) 5 cents. Replacing stone paving: (a) 40 cents, total \$3,331; (a) 10 cents, total \$3,167; (c) 5 cents, total \$3,198.

**Scranton, Pa.**—Lee & McDonald have been awarded contract for street paving, details of which were given last week, bidding \$2.45 on 3-inch asphalt on 6-inch concrete and 75 cents for concrete curb.—C. R. Acker, Director of Public Works.

**Presho, S. D.**—Contract for digging trenches and laying about 2,200 feet of water mains in the town was let to Geo. R. Morris.—A. A. Karley, Town Clerk.

**Chattanooga, Tenn.**—The Noll Construction Company, city, has been awarded contract for the Chestnut street sewer, at \$54,542.32; the details were given last week.

The Noll Construction Company also has contract for sewer work, as follows: 935 feet 24-inch pipe, 8 to 10-foot depth, at \$2.38; 28 feet 24-inch pipe, 10 to 16-foot depth, \$2.75; 90 feet 20-inch pipe, 6 to 8-foot depth, \$1.76; 458 feet 20-inch pipe, 8 to 10-foot depth, \$1.80; 310 feet 18-inch pipe, 6 to 8-foot depth, \$1.52; 270 feet 10-inch, 2 to 6-foot depth, 74 cents; 222 feet 6 to 8-foot depth, 96 cents; 590 feet 8 to 10-foot depth, \$1.02; 240 feet 10 to 12-foot depth, \$1.12; manholes, 6-foot depth, \$36; 7-foot, \$40; 8-foot, \$43; 9-foot, \$46; rock excavation, \$4 per cubic yard; cinders, \$1.50 per cubic yard; total, \$5,519.82. Other bidders were: Brandon & Davis, \$5,532.20; Bosler & Flynn, \$5,629.19; Brewer & Jones, \$7,344.70.

## TRADE NOTES

**Cast Iron Pipe.**—Chicago. Only a few small lettings reported and no large ones in sight. Competition has resulted in wide departures from quoted prices. Quotations: Water pipe, 4-inch, \$28; 6 to 12-inch, \$27; 16-inch and up, \$26, with \$1 extra for gas pipe. Birmingham. It is noted that the American Cast Iron Pipe Company is making frequent shipments to Alaska. Competition results in low prices on contracts, but quotations are firmer for small lots. Quotations: 4 to 6-inch, \$27; 8 to 12-inch, \$25; over 12-inch, average \$24, with \$1 extra for gas pipe. San Francisco. Immediate demand is light but a number of lettings are in sight contingent on placing of municipal bonds. Quotations: 4-inch, \$39; 6 to 12-inch, \$38. New York. Some eastern foundries are now refusing to meet the low prices which have been current for some time. Quotations: 6-inch, \$23.50 to \$24.

**Lead.**—Little inquiry is in evidence, but Desilverized Lead is scarce, and held at 4c., New York. Soft Missouri brands can be had at 3.95c. to 3.97 1/2c. The St. Louis market is quoted at 3.80c. to 3.85c.

**Westinghouse Co.**—The receivership for the Westinghouse Machine Company, created last October at the beginning of the financial depression, was vacated March 31 by Judge James S. Young of the United States Circuit Court, on petition of the company and the receivers. The property was turned back to the stockholders April 1 and the company began its fiscal year free from debt, with cash in bank. It has orders to justify operating the plant on about a 75 per cent. basis, as has been the case all through the receivership, and bright prospects for increasing the output in the near future. This is the second of the three Westinghouse concerns forced into receiverships last Fall to be restored to the stockholders. Plans are well under way for reorganizing the Westinghouse Electric and Manufacturing Company.

**Model Lighting Plant.**—The Lycoming Improvement Company of Williamsport, Pa., is just beginning to use its new station at the foot of Hepburn street. The plant has cost several hundred thousand dollars and is said to be one of the most perfect as well as costly in the State.

## PATENT CLAIMS

882,240. **Water Purifying Apparatus.** John B. Fender, Kaufman, Tex. Serial No. 377,170.

In a water purifying apparatus, a settling basin having an outlet for purified water, combined with a circular mixing tank, means for directing water tangentially into the tank, said tank having a central outlet opening leading to said basin, and a box for holding a purifying chemical salt through which a stream of water from the water to be treated passes and which is poured into the water to be purified at its entrance into the mixing tank.

882,250. **Fire Alarm Box.** Maynard W. Hamblin, Milwaukee, Wis., assignor to American District Telegraph Company, New York, N. Y., a Corporation of New Jersey. Serial No. 96,010.

The combination of a main circuit, a plurality of signaling instruments within the main circuit, a shunt or short circuit for each signaling instrument, a make and break device for each signaling instrument and within the main circuit, means for operating said make and break in order to transmit a signal through the main circuit from the instrument which is operated, a make and break device in each shunt circuit, said make and break device being normally broken, a connection between the two make and break devices, and adapted when operated to a certain extent to cause the make and

break of the main circuit to make and break said circuit, but allow the short circuit to remain broken, whereby a signal is transmitted from the signaling instrument from which the signal is sent through the main circuit, and means for operating the connection between the two make and break devices in such manner as to cause the make and break of the main circuit to be operated an augmented number of times, whereby an increased number of signals are transmitted thereby, and to also cause the make and break of the short circuit to be closed, whereby the current is completed through said short circuit.

882,572. **Street Sweeper.** John Nelson, Chicago, Ill. Serial No. 398,321.

In a street sweeper, a main frame mounted upon wheels and provided with means for attaching it to a wagon or cart, in combination with an auxiliary frame pivotally mounted on said main frame, a belt arranged in said auxiliary frame, a shoe arranged at the lower end of said auxiliary frame, a plurality of brushes for sweeping the street and depositing the sweepings on said belt, and means for regulating the height of the shoe from the ground, said means comprising a transverse shaft mounted on said main frame, a pair of arms rigidly fixed thereto, links connecting said arms with said auxiliary frame and a lever for turning said shaft, substantially as described.

882,726. **Excavating Apparatus.** William C. Weeks, Spokane, Wash. Serial No. 375,167.

In an apparatus for excavating, dredging and transporting earth and other materials, the combination of a scoop having closed back, bottom and sides, and open front and top, with a stationary ball near the front end thereof, two pulleys made stationary at the top of the ball and one at the rear of the scoop and made stationary therewith, a chain linked at the front end of the scoop and to the sides thereof with a pulley at the center, to which pulley is linked a cable adapted to draw the scoop forward and another cable passing from thence over one of the pulleys at the top of the ball, thence back over the pulley at the center of the chain, thence over the other pulley at the top of the ball, thence under the pulley made stationary to the back end of the scoop, thence over a pulley to the rear of the scoop and adapted to draw the scoop backward, substantially as set forth.

## INCORPORATIONS

**Air Tight Pail Company.** New York, N. Y.; to manufacture fire, sanitary and garbage pails; capital, \$5,000. Incorporators: F. W. Mill and H. M. Browne, 154 Nassau street; A. H. Nelson, 12 Gold street, all of New York.

**American Flaming Arc Lamp Company.** Boston, Mass.; capital, \$150,000. Incorporators: Charles D. Lanning, Malcolm H. Baker, Charles H. Sprague, Joshua D. Robinson.

**Bridgeton Land Company.** Bridgeton, N. J.; digging sand, gravel and clay; capital, \$100,000. Incorporators: William H. Ott, 289 East Commerce street; Frank H. Gibson, 220 North Pearl street; Edward F. Cook, 194 Atlantic street, all of Bridgeton.

**Empire Voting Machine Company.** Rochester, N. Y.; to manufacture voting machines; capital, \$2,000,000. Incorporators: Carl F. Lomb and Daniel B. Platt, Rochester; Adam Andrew, San Francisco; Ernest H. Tripp, Indianapolis.

**International Process Company.** New York, N. Y.; mechanical, electrical and civil engineers; capital, \$25,000. Incorporators: Ernest W. Marshall, George H. Marshall, Henry C. Duter, No. 71 Nassau street, New York.

**Lenger Engineering Company.** Jersey City, N. J.; mechanical and electrical engineers; capital, \$100,000. Incorporators: Stonewall J. Lenger and George H. Stephen, 363 Jersey avenue, Jersey City; Charles N. Walsh, 37 Park avenue, East Orange.

**Pittsburg Reduction and Incineration Company, Inc.** Camden, N. J.; to collect and incinerate garbage, dead animals, etc.; capital, \$100,000. Incorporators: W. F. Miller, John Frederick, E. W. Mihm, as above.

**Ridgway Quarry and Sand Company.** Camden, N. J.; to quarry all kinds of stone and manufacture brick; capital, \$300,000. Incorporators: James O. McHenry, Real Estate Trust Building; Morris Liveright, 306 Race street, both of Philadelphia; John A. MacPeak, 419 Market street, Camden.

**Union Street Improvement Company.** Wilmington, Del.; capital, \$300,000. Incorporators: Lewis W. Brasins, John F. LeCarpenter, Albert E. Nentz, Wilmington.

**Wallkill River Company.** Walden, N. Y.; to operate dams, sell water and power; capital, \$250,000. Incorporators: Clifford B. Fuller and James E. Fuller, 225 Fifth avenue; Gerard B. Townsend, 42 Broadway, all of New York.

## NEWS OF THE SOCIETIES

**Russell Fire Club.**—At a meeting held at the headquarters of the club in Pilgrim Hall, Boston, Mass., Mayor Geo. A. Hibbard was the principal guest. The Mayor praised the fire fighters and told them he intended to give them a "square deal." He also expressed his approval of the new organization.

**Playground Association of America.**—A distinguished company of men and women attended a banquet given in the Waldorf-Astoria, New York City, in honor of Mrs. Humphrey Ward. Richard Watson Gilder, who acted as toastmaster, introduced the Duchess of Marlboro, who spoke on the "Responsibility of Women," referring particularly to the prominent part they take in public affairs in England. Mrs. Ward spoke on "Playgrounds in England." She said that the organization and equipment which the city authorities provide in parks and playgrounds are beyond anything to be found in England. In London there are better playgrounds than here, but they are less useful. The British have not learned how to equip and use them. There is no supervision of games. Mrs. Ward in closing expressed the hope that the lectures she intends to give in this country will be sufficiently remunerative to enable her to establish another recreation centre in London. Addresses were also made by Jacob Riis, Jane Addams and Mrs. Kate Douglas Wiggins. Mr. Gilder read letters from President Roosevelt, Ambassador Brice and Earl Grey. Dr. Luther Gulick is the President of the Association.

**Engineers' Club of Baltimore.**—At the meeting to be held at the club rooms, Charles and Pleasant streets, April 11, Charles E. Phelps, Jr., Chief Engineer of the Electrical Commission of Baltimore, will present a paper on "Fuel Combustion."

**American Electro-Chemical Society.**—The program for the meeting to be held in Albany, N. Y., April 30 to May 2 is as follows:

Thursday, April 30, Hotel Ten Eyck, 10:30 a.m.—Professional session; 2 p.m., business meeting, followed by professional session; 8 p.m., smoker.

Friday, May 1, 10 a.m.—Professional session at Union College, Schenectady; 1 p.m., lunch at works of General Electric Co.; 2 to 6 p.m., inspection of General Electric Works; 7:30 p.m., informal dinner at Hotel Ten Eyck, Albany.

Saturday, May 2, 9:30 a.m.—Professional session at Rensselaer Polytechnic Institute; 1 p.m., lunch at Rensselaer Inn; 2 p.m., trolley trip to Saratoga.

The following papers have been promised for the professional sessions: Corrosion of Iron from the Electro-chemical Standpoint, C. F. Burgess, University of Wisconsin; The Electrochemistry of Light, W. D. Bancroft, Cornell University; Mercury Cathodes in Nitric Acid Solutions, J. A. Wilkinson; Copper Anodes in Chloride Solutions, Paul Dyshman; Conduction in Electrolytes, L. Kahlberg, University of Wisconsin; The Potential of the Nickel Electrode, E. P. Schoch, University of Texas; Solubility Determinations in Aqueous Alcoholic Solutions, A. Seidell; Industrial Applications of Aluminum, E. Blough; Power for Electrochemical Industries, John Meyer, Philadelphia Electric Co.; Electrical Conductivity of Graphite, W. Acheson Smith; Distillation of Turpentine in an Electric Furnace, F. S. Snyder; Mathematics of the Induction Furnace, E. F. Roeber, "Electrochemical and Metallurgical Industry"; The Synthesis of Hydrocyanic Acid in the Electric Furnace, R. S. Hutton, Manchester, England.

**Western Society of Engineers.**—At the meeting held at the Society's rooms in Chicago, Ill., March 25, J. N. Darling presented a paper on "The Reconstruction of the South Side Elevated Railway, of Chicago." This work included the widening of the structure for a third track, the elevation of the structure to

allow stations to be put under the tracks and 14 feet above the ground and the replacement of two sharp two-track curves with three-track curves of larger radius. The change of grade varied from 3½ to 8 feet. The raising was done by hydraulic jacks, and a cribbing of 12x12-inch timbers built up as the work progressed, the cribbing being surmounted by a trestle bent. Traffic was interfered with only to a slight extent.

## Calendar of Meetings

**April 15.** American Society of Civil Engineers.—Regular meeting at the House of the Society, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

**May 1-2.** American Electro-Chemical Society.—Annual meeting, Albany, N. Y.—Joseph W. Richards, Secretary, Lehigh University, South Bethlehem, Pa.

**May 11-16.** American Water Works Association.—Twenty-eighth annual convention, Washington, D. C.—J. M. Diven, Secretary, 14 George street, Charleston, S. C.

**May 14-16.** New York State City Clerks' Association.—First convention, Schenectady, N. Y.—Frank L. Fonda, City Clerk, Schenectady, N. Y.

**May 19-22.** National Electric Light Association.—Annual meeting, Chicago, Ill.—W. W. Freeman, Secretary, Engineering Societies Building, 29 West Thirty-ninth street, New York City.

**May 26-28.** National Fire Protection Association.—Annual meeting, Chicago, Ill.—W. H. Merrill, Jr., Secretary, 382 Ohio street, Chicago, Ill.

**June 23-26.** American Society of Civil Engineers.—Annual convention, Denver, Col.—Charles Warren Hunt, Secretary, 220 West Fifty-seventh street, New York City.

**June 23-26.** American Society of Mechanical Engineers.—Annual convention, Detroit, Mich.—C. W. Rice, Secretary, 29 West 39th street, New York City.

**June 23-27.** American Society for Testing Materials.—Annual meeting, Hotel Traymore, Atlantic City, N. J.—Edgar Marburg, Secretary, University of Pennsylvania, Philadelphia, Pa.

**June 24-25.** Indiana State Board of Health.—General Conference, Indianapolis, Ind. Dr. J. N. Hurty, Secretary.

**June 29-July 2.** American Institute of Electrical Engineers.—Annual convention, Atlantic City, N. J.—Ralph W. Pope, Secretary, 33 West Thirty-ninth street, New York City.

**September.** New Jersey State Firemen's Association.—Annual meeting, Atlantic City, N. J.—William Exall, Secretary, 11 Howard street, Newark, N. J.

**September 21-October 12.** National Association for the Study and Prevention of Tuberculosis.—International Congress, Washington, D. C.—Dr. Henry Barton Jacobs, Secretary, Baltimore, Md.—Dr. Joseph Walsh, Philadelphia, Pa. Special Secretary of the Committee on the International Congress.

**October 20-23.** American Society of Municipal Improvements.—Fifteenth annual convention, Hotel Dennis, Atlantic City, N. J.—A. Prescott Folwell, Secretary, 511 Flatiron Building, New York City.

## PERSONALS

ATKINS, V. B., Selma, Ala., has been re-elected Mayor for the fourth time. This is the first election held since the adoption of the new municipal code.

BEHRMAN, MARTIN, Mayor of New Orleans, La., recently had a talk with Commissioner H. L. West, of the District of Columbia, relative to various details of municipal administration, special attention being given to the collection and disposal of garbage, ashes and city refuse, the Southern city being anxious to establish the

most improved system, so as to keep pace with its water extensions, sewerage and other improvements, in which the city is expending \$10,000,000.

BLINN, S. RAY, Columbus, O., has been appointed assistant engineer by the Board of Public Service.

BRENNAN, JAMES W., Geneva, N. Y., has been appointed Assistant City Engineer.

BUESTRIN, HENRY F., Milwaukee, Wis., former Alderman, and member of the firm of Henry Buestrin & Sons, general contractors, died March 28.

CARTWRIGHT, DR. A. Y., Alderman, of Yorkville, S. C., and former Chief of the Fire Department, was unanimously chosen by the members as successor to O. E. Grist, and has again been elected by the City Council as head of the Department.

COOL, CHARLES W., Glens Falls, N. Y., was elected Mayor of the newly incorporated city by a majority of 325 votes over Patrick Moynihan, Democrat. The election, which puts the winning party in control of the city government, and the establishment of several permanent boards and commissions, was the hardest fought in the history of the place.

DONALDSON, CARL L., Beaver Falls, Pa., has been elected City Engineer.

GUNTER, GASTON, Montgomery, Ala., was nominated at the primary election, defeating J. C. Tyson by over 600 votes.

LEE, W. LORING, has been elected City Engineer unanimously by the City Council of Sumter, S. C., from a number of applicants.

MARTHUR, ARTHUR W., Guelph, Ontario, has been appointed City Engineer.

MCKENNA, MAURICE F., Bridgeport, Conn., recently elected City Engineer, has announced the appointment of the following staff: First assistant, William D. Murray, who has been connected with the Bridgeport engineering department for sixteen years; second assistant, Dennis Mulvihill, a son of former Mayor Mulvihill, and a graduate of Troy Polytechnic Institute; third assistant, Walter W. Hubbell, formerly of the engineering staff of Stamford, and later with the Connecticut Shell Fish Commission, the Pennsylvania Railroad and the U. S. War Department, under Major Taylor.

MACVICAR, JOHN, former Mayor of Des Moines, Ia., Wesley Ash, John L. Hamery and Charles Schramm, were elected Councilmen at the joint election, held under the Des Moines new commission form of government. MacVickar is the Secretary of the American League of Municipalities; Ash is a coal miner, and had the backing of organized labor.

MATHIAS, A. J., Des Moines, Ia., former Police Judge, has been elected Mayor of Des Moines, Ia., at the first election held under the new charter.

MILLER, EDWARD, Mayor of Piqua, O., in 1890 and 1891; Sheriff of Miami County, 1894 to 1898, and who held other public offices, and had been prominent in the affairs of the Ohio city, died recently.

SHELDON, OLIVER D., Kenton, O., by a vote of the Board of Public Safety, has been removed from the office of the Chief of Police. He was suspended, and charged with improper conduct by Mayor Thompson, and E. H. Young was appointed in his place. Sheldon says he will prove charges of misconduct in office against Mayor Thompson.

WARD, IRVING, Captain of Police of Seattle, Wash., and Acting Chief since the resignation of Charles W. Wappenstein, has been appointed by Mayor Miller as head of the Department.

## Proposals

### MUNICIPAL BUILDING Notice to Architects.

Massillon, Ohio.  
The Board of Public Service of the City of Massillon, Ohio, invites architects to submit plans, specifications and estimates of cost of a proposed building to be erected in the City of Massillon, Ohio, for the use of city officers. The building is to be of the dimensions 70 feet by 120 feet, two stories high, fireproof, of modern design, equipped with heating apparatus, and to cost not more than \$45,000. Plans will be received until 12 o'clock, noon, on April 20, 1908. For further particulars apply to the Board.

G. G. PAUL,  
Clerk.

### SUPERSTRUCTURE POLK ST. BRIDGE

Department of Public Works,  
Chicago, March 25, 1908.

Sealed proposals will be received by the city of Chicago until 11 a.m. Wednesday, April 15, 1908, at Room 224, City Hall, for furnishing, delivering and building in place all temporary work, and for furnishing all materials, tools, labor, and all appliances and appurtenances required in the performance of all necessary operations for the complete construction and erection of the superstructure for a bascule bridge over the south branch of the Chicago river at Polk street, with all necessary abutments and approaches thereto, according to plans and specifications on file in the office of the Department of Public Works of said city, Room 326, City Hall.

Proposals must be made out upon blanks furnished at said office, and be addressed to said department, indorsed "Proposals for Superstructure of Folk Street Bridge," and be accompanied with three thousand dollars in money or a certified check for the same amount on some responsible bank located and doing business in the city of Chicago and made payable to the order of the Commissioner of Public Works.

The Commissioner of Public Works reserves the right to reject any or all bids.

A deposit of twenty dollars will be required for the safe return of plans and specifications.

No proposal will be considered unless the party offering it shall furnish evidence satisfactory to the Commissioner of Public Works of his ability, and that he has the necessary facilities, together with sufficient pecuniary resources, to fulfill the conditions of the contract and specifications, provided such contract should be awarded to him.

Companies or firms bidding will give the individual names, as well as the name of the firm, with their address.

JOHN J. HANBERG,  
Commissioner of Public Works.  
By PAUL REDIESKE,  
Deputy Commissioner.  
(14-15)

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The Commissioner of Public Works reserves the right to reject any or all bids.

A deposit of five dollars will be required

for the safe return of plans and specifications.

No proposal will be considered unless the party offering it shall furnish evidence satisfactory to the Commissioner of Public Works of his ability, and that he has the necessary facilities, together with sufficient pecuniary resources, to fulfill the conditions of the contract and specifications, provided such contract should be awarded to him.

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JOHN J. HANBERG,  
Commissioner of Public Works.  
By PAUL REDIESKE,  
Deputy Commissioner.  
(14-15)

### VITRIFIED BLOCK PAVING.

Jeffersonville, Ind.

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Full information furnished by City Engineer. Bids will be opened April 8, 1908, at 11 A. M. BOARD OF PUBLIC WORKS.

### SWETLAND PUBLISHING CO.

#### Notice of Annual Meeting of Stockholders

In accordance with the by-laws, the regular annual meeting of the stockholders of the Swetland Publishing Company will be held at its office, Flatiron Building, New York, April 21, 1908, at 10 o'clock a.m.

F. P. BURT,  
Secretary.

### WANTS

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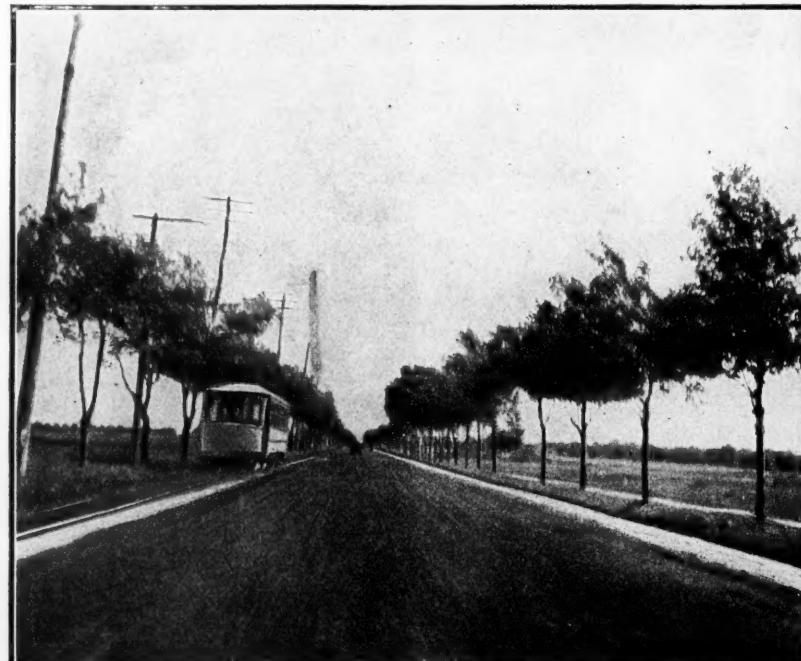
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# Bitulithic Patent Invalid

## An open letter to Municipal Officials and Contractors

Subsequent to the announcement of the decision of the Circuit Court for the Eastern District of Michigan, in the bitulithic patent cases, the Warren Brothers Company through its publicity department and in letters signed by the general officers of the Warren Brothers Company and of subsidiary companies, has sought to discredit the scope of the decision in the bitulithic cases against the cities of Muskegon and Owosso, Mich., and endeavored to create the impression that the decision of the Federal Court in Michigan was simply a perfunctory matter, that it has no particular significance, and that the Court has taken the position that, to allow a higher Court to pass upon the questions at issue, a decision in some form was necessary.

The Warren Brothers Company has further stated repeatedly that the cases would eventually be carried to the Supreme Court of the United States, and that the Warren Brothers Company had in fact taken an appeal. In at least one instance the Warren Brothers Company, in a letter signed by its President, Mr. George C. Warren, has stated that "it was generally understood by the litigants and the Court that the hearing in the trial Court was merely preliminary to the taking of the case to the Court of Appeals." This statement might convey the impression that there was an agreement between counsel that these suits were merely formal test cases, the outcome of which was a matter of no particular importance, excepting as a step toward the submission of the question to the higher Court.

The further statement made by the Warren Brothers Company and by one of the leading trade journals, that the order dismissing the bill was "apparently without prejudice to either party," is entirely without foundation. The cases were argued before the Judge most fully upon their merits, and were considered by the Court for several months before its decision was announced. The decision was a finding by the Judge that the patent (No. 727505) was invalid, and this settles the controversy unless reversed upon appeal. There was no understanding between the parties that there was to be an appeal, nor was anything said to the Court at the argument about an appeal. Although an appeal has been taken, we feel confident that it will result in an affirmation of the decree of the lower Court.

Every interested person is aware that the decision of a Federal Circuit Court is subject to

review in the Circuit Court of Appeals for that Circuit, but the statement made by the Warren Brothers Company that this case is to be carried (and inferentially by mutual agreement) to the Supreme Court of the United States is grossly misleading. A patent suit cannot be appealed from the decision of the Circuit Court of Appeals, and while in some instances a petition is presented to the Supreme Court for a writ of certiorari, it is the almost invariable custom of the Supreme Court to deny such petitions; patent cases, therefore, do not reach the Supreme Court of the United States excepting for the determination of conflicting decisions by Appellate Courts in two separate circuits. The decision and decree, in these cases, therefore, are not subject to review by the Supreme Court of the United States except as stated.

The defendant in these cases (The Barber Asphalt Paving Company) has throughout the five years of litigation, exhausted every effort to force the question to an issue, and we feel that it is mainly as a result of our efforts in this direction that a decision has finally been reached. We are quite as anxious that the hearing on appeal should be held at the earliest practicable moment, and will state now most emphatically that there has never been any acknowledgment, either expressed or implied, that the decision of the Circuit Court for the Eastern District of Michigan was to be robbed of its significance as a final determination that the patent sued upon was invalid for anticipation, by reason of the construction of the same kind of pavement by The Barber Asphalt Paving Company in 1896, or six years before the pavement was laid in Muskegon, and seven years earlier than the laying of the Owosso pavement, which furnished the basis for this suit.

In one other respect the Warrens have sought to befog the issue by making repeated reference to the fact that they have many additional patents beyond the single patent, No. 727505, involved in the Muskegon and Owosso suits. As to one of those additional patents, upon which they first sued, their own opinion of its importance may be judged from the fact that they allowed this bill to be dismissed for want of prosecution. The patent in suit, No. 727505, is the only one of importance, and without its protection the much-vaunted "inherent stability" feature, so far as it relates to bituminous concrete pavements, becomes public property.

THE BARBER ASPHALT PAVING COMPANY  
Philadelphia, April 1, 1908.

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